DOCUMENT RESUME

ED 209 424 CE 029 524

AUTHOR	Polley, Beulah M.
TITLE	Project ALMS: Adult Literacy Mission Support. An Adult Basic Reading Project.
INSTITUTION	Edinboro State Coll., Pa.
SPONS AGENCY	Pennsylvania State Dept. of Education, Harrisburg. Bureau of Vocational and Technical Education.
PUB DATE	30 Jul 81
CONTRACT	98-1027
NOTE	143p.; Appendix A was removed to preserve confidentiality of personal information; Appendix E will not reproduce well due to light print.
EDRS PRICE	MF01/PC06 Plus Postage.
DESCRIPTORS	*Adult Education; *Adult Literacy; *Adult Reading Programs; Adults; Comparative Analysis; English (Second Language); Foreign Students; *Functional Literacy; Guidelines; Literacy; *Program Development; *Program Effectiveness; Reading Tests; Skilled Occupations; Unemployment
IDENTIFIERS	*Project ALMS

ABSTRACT

Project ALMS (Adult Literacy Mission Support) was designed to improve the communication skills of semi-literate or illiterate adults, help participants become more self-sufficient, provide an ongoing program for other such individuals, and provide a manual of guidelines and suggestions for other programs. Three groups were established to make a comparison among 25 students who were gainfully employed in a local electric plant as machinist trainees, 128 Chinese students living in China and learning to read English as a second language, and 26 generally unemployed students participating in an individualized adult basic reading program. All three groups consisted of adults aged 17 to 40. Programs of study varied with the group as well as the individual according to specific, diverse reading goals. Growth in reading was ascertained through pre- and posttesting utilizing the Woodcock Mastery Skills Tests. Data revealed that the individualized approach was superior and that the Woodcock Test can be used appropriately for adults having less than tenth grade reading level but not for adults who are reading above that level. Test goals also confirmed that the program goals were met. (The manual developed during the project is also included.) (MN)

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ED209424

PROJECT ALMS: ADULT LITERACY MISSION SUPPORT

AN ADULT BASIC READING PROJECT

By

Beulah M. Polley, Ph.D.

Project Director

July 30, 1981

EDINBORO STATE COLLEGE

Edinboro, Pennsylvania

Grantor: Adult Basic Education, P. L. 95-561
Division of Adult Education: Continuing Education & Training
Bureau of Vocational Education
Pennsylvania Department of Education

Grantee: Edinboro State College, Edinboro, Pennsylvania

School Unit: 4-05-25-265-0
Contract No.: 98-1027
Starting Date: 7-01-80
HEW/OE Disclaimer: Non-applicable

CE 029 524

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ABSTRACT

PROJECT ALMS: ADULT LITERACY MISSION SUPPORT

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The purpose of this project was to improve the communication skills of semi- or illiterate adults, help the participants become more self-sufficient, provide an ongoing program for other such individuals and provide a manual of guidelines and suggestions for other such programs.

Growth in reading was ascertained through pre- and post-testing utilizing the Woodcock Mastery Skills Tests, Form A and B. Three groups were established to make a comparison among students who were gainfully employed in a local electric plant as machinist trainees, foreign students in a foreign country learning to read English as a second language and students who were generally not employed or felt that the lack of reading skill was interfering with their employment goals. All three groups consisted of adults ranging from approximately 17-40 years of age. The program of study varied with the group as well as with the individual according to specific, diverse reading goals.

The groups' scores were subjected to t-Tests to identify differences among group means and to measure treatment effects on two of the groups. Statistically significant results werereported at the .05 or less levels where obtained. On the basis of the findings, it was concluded that the individualized approach was superior; that the Woodcock Tests can be used appropriately for adults having less than tenth grade reading level but not for adults who are reading above this level.

Teachers of Adult Basic Education, teachers and staff working with students who are reading English as a second language and teachers of specialized, on-site industrial classes should be interested in this report. Other colleges or centers who are planning to set up adult education programs may find the manual in Chapter V. helpful.

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CHAPTER I

INTRODUCTION

PROJECT ALMS: ADULT LITERACY MISSION SUPPORT, an Adult Basic Reading project, was proposed by Dr. Jimmie Cook, Director of Clinical Services, Miller Learning Research Center, Edinboro State College, Edinboro, Pennsylvania. The project directors were to be Dr. Cook and Dr. Robert Zanotti, Assistant Chairman of Elementary Education and an advisory committee consisting of Dr. James McKinley, Vice President for Academic Affairs; Dr. Martin Farabaugh, Dean, School of Education; and Dr. Robert Connors, Chairman of the Elementary Education Department was set up to administer the program. The duration of the project was for twelve months, dating from 7-1-80 to 6-30-81. This Special Experimental Demonstration Project addressed itself to the illiteracy problems among adults in Northwestern Pennsylvania.

Objectives

The initial objectives for PROJECT ALMS were to:

1. improve the communication skills of semi- or illiterate adults as measured by the Woodcock Reading Mastery Tests through an individualized program of instruction

2. help the participants to become more self-sufficient and thus improve their own self-concepts

3. provide an ongoing program which would be voluntarily staffed by the students participating in the first-year program; that is, semi- or illiterate adults would teach other semi- or illiterate adults after becoming more literate through participation in the first year of the program; the second-year students would become tutors for the third-year students, etc.

4. provide a manual with guidelines and instructions designed to assist other areas in setting up similar programs.

Rationale

Semi- or illiterate adults, many who are high school drop-outs, can improve their reading and writing skills through individualized reading instruction in one year. If successful, these adults could then instruct other semi- or illiterate adults during a second year. The second year of the program would then, therefore, provide instruction for new participants as well as reinforce previously learned skills for the original participants. The second-year students could teach another new group of semi- or illiterate adults, etc., providing for an ongoing program. This "Snowball" effect could provide instruction for many illiterate adults throughout the Commonwealth with the students capable of learning being required to teach others capable of learning. The theory upon which this project is based is that much learning takes place while teaching another.

Staff and Key Personnel*

Dr. Jimmie Cook, the original director, left his position at Edinboro State College. He was replaced as director of this project by Dr. Beulah Polley. Dr. Polley is a reading specialist and professor in the Elementary Education Department at Edinboro State College. She has taught adults in college developmental reading courses as well as adults learning to read English as a second language in several states and countries during the past

* See Appendix A for complete visas

twenty years. Dr. Polley set up the individualized adult reading programs at two different sites and taught and directed these programs from September through December. Some of the participants were taught in her home to avoid embarrassment to those who did not want anyone in the community to know they were in need of basic reading instruction. During the second semester (January - May, 1981), Dr. Polley was on sabbatical leave and Dr. Robert McClune acted as director in her absence. While on sabbatical leave, Dr. Polley taught similar classes in adult basic reading to 125 Chinese students in the People's Republic of China.

Dr. Robert McClune, Acting Director, continued teaching the adult basic reading class at the Edinboro locations and provided on-site reading improvement instruction for thirty-six(36) machinist trainees at the General Electric Plant in Erie, Pennsylvania. Dr. McClune is a Professor of Education in the Elementary Education Department at Edinboro State College and he had, in the past, served as director of the college's Day Care Professional Education Program. He has been involved in both adult professional education and adult basic education for a number of years.

Marian Terwilliger aided in testing and tutoring individuals in the adult basic reading program at Edinboro throughout the entire year. She worked very closely with one student who was deaf and needed much guidance. She and some graduate assistants did most of the pre-testing. Marian Terwilliger has a master's degree in reading as well as a degree in Spanish, has been a substitute teacher, and worked for the F.B.I for three years.

Mildred Bruce, a retired college professor of music, volunteered

to aid in the adult reading program during the first semester. She attended the classes and was available to aid any of the students who required help with their individual work. She also researched material for a student who was interested in taking the Aptitude for Practical Nursing Test which would enable this student to become a practical nurse at the institution in which she was employed as an aide.

Frannie Come, wife of a college professor whose family was grown, decided to come back to school herself for an advanced degree and volunteered to help with the adult basic reading program. She attended the classes in Edinboro during the first semster and helped those there who needed help.

Dorothy Allshouse, a retired teacher and a very active senior citizen, volunteered to attend classes and help whoever needed it. She worked with all of the students but spent most of her time with a Polish immigrant who was learning to read English as a second language.

Audience

Teachers of Adult Basic Education should be interested in this report and it should be of special interest to teachers and staff working with reading disabilities of adults. Teachers and staff working with teaching English as a second language and the teaching of reading English as a second language may also be interested. These two groups, the foreign-born and the adult who has missed out on learning the basic skills in reading, have several things

in common; for example, concepts related to word and passage comprehension are based on one's past experiences. The past experiences of these two groups are atypical and therefore they do not come up with the same ideas that are considered as "correct" on many standardized tests. Further discussion of their concepts often reveal a practical, thoughtful answer has been supplied based on their different backgrounds. It is also hoped that other areas who are setting up adult basic reading programs will read this report, especially Chapter V, the Manual of Guidelines.

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CHAPTER II

DESCRIPTION OF THE PROGRAMS

Program I

Following the objectives of the proposal, the program in adult basic reading was advertised in local newspapers and on local radio statons. Bulletins were placed on community bulletin boards and letters were sent out to various social and welfare agencies in the area. Telephone calls were made to the leaders of these agencies and follow-up letters and calls were made to any perspective clients. The program was re-advertised in January, the beginning of the second semester of the school year. (See Appendix B for samples of letters and articles used for this purpose).

The two sites chosen for the program were Miller Learning Research Center at Edinboro State College in Edinboro, Pennsylvania and the Glenwood United Methodist Church in Erie, Pennsylvania. It was felt that choosing two sites would make it more convenient for people from various locations to attend. The Glenwood Church in Erie is located in the central part of that city and is readily accessible by bus. There is also bus service to Edinboro State College from Erie and the town of Edinboro is small enough to make travel by foot possible within the town.

Twenty-eight people responded in September and were tested, using Form A of the Woodcock Reading Mastery Tests. Some of these people did not qualify for the program because their reading levels were above those considered semi-illiterate. Those who did qualify were encouraged

to come to sessions held at one of the sites and two participants received their instruction in the director's home to avoid possible embarrassment to them. Many of these participants had difficulty attending on a regular basis due to transportation, work, and family problems. Four of the participants attended all year regularly and faithfully with enthusiasm, interest and committment; four others attended regularly the first semester and part of the second, doing much of their work at home during the second semester; others attended from two to ten class sessions. (See chart in Appendix C for these students ages, occupations, school grade completed, sex, first language, marital status and time spent in the reading program as well as their individual test-scores.)

Materials used in this program varied with the individual's goals and needs. All of the materials used are identified in the bibliography and samples are included in Chapter V: Manual. Booklets on Word Analysis for Adults, Analyzing Word Structures for Adults, and the Adult Use of the Dictionary were distributed and discussed with all class members as it was felt that a review of the theory related to the structure of English words was needed by everyone. The sources for the material in these booklets were: Botel, Morton, Multi-Level Speller Guidebook, State College, Pa: Penns Valley Publishers, 1961; and Fry, Edward B., Dictionary Drills, Providence, R.I.: Jamestown Publishers, 1980.

The Barnell Loft Specific Skills Books were used in accordance with diagnosed weaknesses in: Getting the Main Idea, Drawing Conclusions, Detecting the Sequence, Getting the Facts, Locating the Answer, Following Directions, Using the Context and Working with Sounds. The Barnell

Loft Specific Skills Books that were especially helpful were Using the Context and Working with Sounds. Most of the participants began at about D Level and worked themselves through several levels of these books.

Survival Reading Skills materials were used a great deal because they provided real-life reading material in which the adult was interested and which gave the adult important information related to his own living problems.

S.R.A. multi-level reading kits and the Reading Attainment System Kit by Grolier provided story material and work related to vocabulary and comprehension. The Reading for Understanding kit, S.R.A., was especially helpful with this group for the exercises were short and the opinions expressed in the exercises provided excellent basis for discussion.

Some students chose to work with the new High School Equivalency Diploma Tests book by David Turner because they were interested in becoming prepared to take their G.E.D. tests.

The participants in the program met once a week for approximately 3 hours. Each worked on his own individual work at home and upon coming to class corrected his homework, worked in the reading laboratory work, discussed his specific reading problems with the materials he/she had worked on during the past week with the director or an aide. Large group and small group discussions took place related to word analysis, vocabulary, comprehension, or life skill sheets. In the group work, the Barnell-Loft books on word relationships (synonyms, antonyms, noun-verb, adjective-noun, part-whole etc.), syllabication practice, and

reading schedules were used, discussing the contents orally. Some creative writing was attempted by the participants and a newspaper was printed for class-use.

This individualized program continued all year at the Miller Learning Research Center in Edinboro but was discontinued at the Erie site during the second semester because the participants were no longer able to attend.

Program II

In lieu of the program which was discontinued at the Glenwood Church in Erie, another program was set up at the General Electric Plant in Erie. Data collected during the first semester of the program led us to change our objectives in order to better fulfill the identified needs of the adults in the region. Mr. Sam Gintz, Manager of Training Programs at the General Electric Plant met with Dr. Beulah Polley and Dr. Robet Mc Clune to discuss the need to provide reading improvement instruction and competency development for machinist trainees at the General Electric Plant. G. E. officials approved the proposed program and provided the classroom space for an on-site reading improvement course.

This course was taught by Dr. Robert Mc Clune during the second semester (January-May, 1981). It provided reading instruction for thirty-six (36) machinist trainees on two evenings each week. The participants ranged from 19 to 27 years of age and all had completed twelve years of school. The Woodcock Reading Mastery Tests were administered to get an ideaof the initial reading abilities of the individual participants. The indviduals' scores were discussed with the individuals and suggestions were made regarding the needs and desired goals of the participants of the course. (See Appendix C for descriptions of the students in all three groups and their individual pre- and post-test scores).

In addition to basic vocabulary, word attack, and comprehension skills development, an emphasis was placed on technical vocabulary for toolmakers and machinists and the skills needed for successful living in today's complex society such as making applications and completing forms. The purpose of providing reading improvement activities

to this group was the belief that development of reading skills and competencies would lead to greater job competence, promotions, better self-images and greater successes in dealing with life's problems and situations.

One of the reading programs used with this group was 88 Passages to Develop Reading Comprehension by Michael T. Gilmore, Allan Sack, and Jack Yourman. The purpose of this was to help the participants develop six types of thinking skills:

1. identifying main ideas
2. identifying main thought
3. identifying supporting details
4. identifying the significance of passages
5. drawing conclusions from readings
6. learning meanings of new words from the context

Dr. McClune also used a filmstrip-sound series:

1. Reading on the Job
2. Listening on the Job
3. How to Get the Most from What You Read
4. Making Judgments and Drawing Conclusions

Timed readings, using programs developed by S. R. A., Mc Call Crabbs, etc. provided opportunities for participants to increase their reading speed. To improve technical comprehension and vocabulary, the book, Machine Tools and Processes for Engineers by Charles R. Hine, 1971 gave the students general background information about metals and ways they are formed, shaped, and machined. Exercises were included to check comprehension. These materials are identified in the bibliography and samples are included in the Appendix.

Program III

This program describes work done in the People's Republic of China and is included in the report only for the purpose of making comparisons of initial testing results using the Woodcock Reading Mastery Tests, Form A. Dr. Beulah Polley, who was on sabbatical leave during the second semester (January-May, 1981), travelled to the People's Republic of China and taught 125 Chinese college students at Wuch'ang University--Central China Teachers College in the city of Wuhan, province of Hubei. These Chinese students had had ten years of schooling before entering college and were in their third year of college which would be equivalent to the college freshmen year in the United States. Many of these students had had to postpone their education during the Cultural Revolutions so they were older than the typical college student and were, therefore, of similar ages to the adult basic reading classes taught in Edinboro and Erie. English was their second language; the classes taught by Dr. Polley encompassed the teaching of the reading of English as their oral English language was already developed. When these students graduate from college, they will become teachers of English in China's Middle School (similar to the American high school) or they will become interpreters, writers, or work in mass media communication.

The group was divided into five groups of 25 students. Each group met with Dr. Polley once a week for two hours. The instructional method used was reading and discussing short stories using the text, Best Short Stories by Raymond Harris, Jamestown Publishers of Providence, Rhode Island. The individual work was creative writing in conjunction with the short stories above.

These classes began the middle of February and ended the middle of May. Participants indicated that they felt that they had learned much about reading the English language and much about America through reading American stories. Form B of the Woodcock test was not administered due to lack of time.

An analysis of the answers that were given by both the individuals in the Chinese Group and those in the Individualized Group led the director of the program to make several conjectures which were felt to be pertinent to this study. Students who have had difficulty learning to read in the American schools have somewhat the same problems with the written language as foreign students learning to read English as a second language.

Upon analyzing answers given for the word comprehension and the passage comprehension tests, one had to be aware of the Chinese culture to give credit for "correct, rational thinking." For example, in the word analysis question asking the testee to provide the fourth word for Come: Go: : Play: _____, the key suggests that acceptable answers would be: work, sleep, or fight. However, one of the most common statements made by the Chinese to their guests is, "Take a rest." This means, "I will leave now so you can nap or sleep." "Taking a rest" is seen as the opposite of "play" for when a Chinese person wants to visit with you, they will often say, "I will come up and play with you," regardless of their age or sex. One form of this "play" is to visit or have a conversation.

Both the Chinese group and the Individualized group seemed to have special difficulty comprehending words, phrases, idioms and

references to other literary works such as the Bible, the myths, and well-known authors like Shakespeare. They also have difficulty relating pronouns to their preceding nouns. Concepts that they hold about word relationships are highly related to the concepts they hold about life. Therefore one needs to analyze and ask the testee his or her reasons for their given answers in order to understand their thought processes. The individual tests provide for this opportunity and therefore are superior to group tests which do not.

Another way in which older adults who are interested in coming back to school are like foreign students learning English reading as a second language is the fact that both groups are highly motivated. Both remain highly motivated as long as their lessons make sense to them and seemingly fit their felt goals. The material, therefore, must be challenging and yet comprehensible. It must have a practical nature. It is of extreme importance to find the correct reading material on the correct reading levels that is interesting to adults. Both of these groups need to see where they are going for they are very goal-oriented.

CHAPTER III

PRESENTATION AND RESULTS OF THE DATA

This study involved three different groups of students:

1. Group I is a group of 26 students who began the individualized study course in adult basic reading of which 8 students continued for the entire year. (Table A)

2. Group II is a group of 25 students who are employed as machinist trainees by the General Electric Company in Erie, Pennsylvania who took the reading development course for one semester dating from January to May. (Table B)

3. Group III is a group of 118 Chinese students who were learning to read English as a second language. (Table C)

The students in all three groups were given Form A of the Woodcock Reading Mastery Tests and the scores for the two subtests, Word Comprehension and Passage Comprehension, received by the students were compared, using the Mastery Scores of these tests.

The Mastery Scores were used rather than the raw scores because the Mastery Scale is an interval scale which equalizes the units. The Mastery Scale is a probabilistic model of item analysis presented by Rasch and Wright. This procedure assumes that all items in a test are measuring the same ability and that all are of equal discriminating power. It provides a common scale of numbers for representing the ability a person has in the area being measured and at the same time, the difficulty of the tasks which are being sampled in this measurement (Woodcock, pp. 51-53).

The purpose of this comparison was to measure the appropriateness of the testing instrument and to perceive likenesses and differences

among the three diverse groups. Group I represented adults who were generally not employed or who felt that the lack of reading skills was deterring them from realizing their goals. Group II represented adults who had been selected by a company for employment and additional training and Group III was made up of students in a foreign country who were learning to read English with the goal of teaching the reading of English to middle school students in their country.

The growth in reading abilities as measured by the two subtests, Word Comprehension and Passage Comprehension, of the Woodcock Mastery Tests was determined for Group I and for Group II and this growth for these two groups was compared. This was accomplished through a related t-Test using pre and post-test scores (Form A and Form B of the Woodcock Mastery Tests). Although it was felt that the students in the third group also improved their reading skills, they are not included in this comparison. Form B of the Woodcock Reading Mastery Tests was not administered because it was felt to be an inappropriate measure in relation to the short instruction period of three months.

In comparing the initial testing of the three groups, using Form A of the Woodcock Mastery Tests, one can see that the General Electric group consisted of individuals with word comprehension scores ranging from 100 to 161 (Table 1). Their passage comprehension scores ranged from 128 to 165 (Table 2). The scores for these students were generally much higher than the scores of the students in the other two groups although there is some overlap at the higher levels. This indicates that the General Electric Company hired people with comparatively high reading ability to be trained as machinists.

The word comprehension scores in the Individualized group indicate a wider range than those in the General Electric group, ranging from 58 to 110 (Table 1) and this is also true of their passage comprehension scores, ranging from 51 to 147 (Table 2). The implication that can be drawn here is that people of various reading levels below twelfth grade level consider the disadvantages of reading disability to be great enough to motivate them to seek help and instruction. The corresponding grade levels on the Woodcock Test for these Mastery scores ranged from 1.5 to 12.9.

The scores of the Chinese students' word comprehension test ranging from 57 to 130 (Table 3) and their passage comprehension scores, ranging from 96 to 140 (Table 4) indicate that students learning to read English as a second language have similar scores as adults in our own culture who have not been successful in acquiring high-level reading skills.

The mean scores for the three groups indicate that the General Electric group was much more advanced initially in their reading skills as measured by the Woodcock tests but the Individualized group and the Chinese group were quite similar, the Chinese group having a little higher mean. One needs to consider that the students in the Chinese group were people selected to become teachers and although English was a second language for them they were considered advanced scholars in their own language (Tables 3 and 4).

The Chinese students were divided into five instructional groups. Tables 3 and 4 indicate that all five groups were very similar to each other. There were no significant differences among these groups.

TABLE 1

Comparison of Groups

Using t-Test for Independent Samples

Reading Form A Woodcock Word Comprehension

Group	Mean	Standard Deviation	S.E.	Score Range
General Electric	124.39	13.95	2.5	100 - 161
Individualized	87.81	15.54	3.05	58 - 110
Chinese	98.15	10.96	1.01	57 - 130
Totals	101.28	16.70	1.27	57 - 161

TABLE 2

Comparison of Groups

Using t-Test for Independent Samples

Reading Form A Woodcock Mastery Tests

Passage Comprehension

Group	Mean	Standard Deviation	S.E.	Score Range
General Electric	143.94	10.2	1.83	128 - 165 10.2 - 12.9+
Individualized	106.77	24.83	4.87	51 - 147 1.5 - 12.9
Chinese	118.29	9.65	0.88	96 - 140 4.0 - 12.9
Total	121.12	17.27	1.31	51 - 165

TABLE 3

Comparison of Chinese Groups

Using t-Test for Independent Samples

Reading Form A Woodcock Mastery Tests Word Comprehension

Chinese Groups	Mean	Standard Deviation	S.E.	Score Range
1	101.37	6.65	1.38	88 - 115
2	91.65	14.40	3.00	57 - 120
3	100.92	8.78	1.79	88 - 116
4	101.86	9.43	2.01	81 - 130
5	94.95	10.94	2.23	77 - 123
Total	98.14	10.96	1.01	57 - 130

TABLE 4

Comparison of Chinese Groups

Using t-Test for Independent Samples

Reading Form A Woodcock Mastery Tests:

Passage Comprehension

Chinese Groups	Mean	Standard Deviation	S.E.	Score Range
1	111.	6.55	1.34	100 - 127
2	122.39	9.40	1.96	104 - 137
3	113.76	9.75	1.95	96 - 137
4	123.95	7.85	1.67	112 - 140
5	121.17	7.53	1.54	106 - 134
Total	118.29	9.65	.89	96 - 140

A pre- and post-test comparison of the General Electric group individuals utilizing a t-test for dependent samples indicated significant improvement in word comprehension at the $\leq$.001 level of singificance, t (24) = -4.04 (see Table 5). There is no significant difference between the pre-test and post-test in the passage comprehension scores. t (24) = -1.69. The Woodcock Reading Mastery Test on Passage Comprehension is considered inappropriate for this group because the individuals reached the ceiling levels or very close to the ceiling level in their pre-tests.

A pre- and post-test comparison of the Individualized group individuals utilizing a t-test for dependent samples indicated significant improvement in word comprehension at the $\leq$.001 level of significance, t (7) = -7.95 (see Table 6) and significant improvement in passage comprehension at the $\leq$.001 level of significance, t(7) = -4.67 (see Table 6). The Woodcock Reading Mastery Test for both Word Comprehension and Passage Comprehension is considered appropriate for this group of individuals.

The individuals in the Individualized group made more gain in both word comprehension and passage comprehension as measured by the Woodcock Mastery Tests. This difference in gain in word comprehension is supported at the .001 level of significance, t (31) = -3.78 and the difference in gain in passage comprehension is supported at the .001 level of significance, t (31) = -5.62 (see Table 7). Several factors must be considered to explain this phenomenom:

1. The Woodcock Reading Mastery Tests are not as appropriate for the General Electric group. The individuals scored much higher in the pre-test (close to the ceiling level of the test); the test was therefore too easy to measure reading growth for this group.

2. The General Electric group received instruction for only three months whereas the participants in the Individualized group who were post-tested stayed in the program the entire year.

3. Students generally learn more when taught individually than they do in group classes.

4. The students in the Individualized group had much more to learn in the basic reading skills which was the course of study for the program.

5. The goal for the General Electric group was to improve their knowledge of technical vocabulary and concepts for tool makers and machinists. These concepts were not measured with the Woodcock Reading Mastery Tests.

TABLE 5

Comparison of Individual Pre- and Post-Test Scores Using the t-Test for Dependent Samples

G.E. Group (N = 25)

Variable	$\overline{D}$	$S_{\overline{D}}$	t
Word Comprehension	-10.16	12.59	-4.04**
Passage Comprehension	- 1.88	5.56	-1.69

**$p \leq .001$

TABLE 6

Comparison of Individual Pre- and Post-Test Scores Using the t-Test for Dependent Samples

Individualized Group (N = 8)

Variable	$\bar{D}$	$S_{\bar{D}}$	t
Word Comprehension	-28.75	10.22	-7.95**
Passage Comprehension	-18.25	11.05	-4.67**

**$p \leq .001$

TABLE 7

Comparison of GE Group and Individualized Group

Using t-Test for Dependent Samples

	Word Comprehension		
	$\bar{D}$	$S_{\bar{D}}$	t
GE Group (N = 25)	10.16	12.59	-3.78**
Individualized Group (N = 8)	28.75	10.22	
	Passage Comprehension		
	$\bar{D}$	$S_{\bar{D}}$	t
GE Group (N = 25)	1.88	5.56	-5.62**
Individualized Group (N = 8)	18.25	11.05	

** $p \leq .001$

CHAPTER IV

EVALUATION OF THE PROGRAMS

The first two objectives of the reading improvement programs were met: the communication skills of the participants improved as measured by the Woodcock Reading Mastery Tests through an individualized program of instruction for a period of one year. As a result of this improvement, the participants became more self-sufficient and as they did this, their self-concepts seemed to improve. Evidence that this is so is in the comparison of pre- and post-test scores. Utilizing a t-test for dependent samples indicated significant improvement in both word comprehension and paragraph comprehension at the $\leq .001$ level of significance, t (7) = -7.95 and -4.67 respectively for the two tests.

Further evidence of the effect of this improvement on the participants self-sufficiency and self-concepts can be seen by the following examples.

Krystina, a Polish immigrant and single parent of three daughters was one of our greatest success stories. Krystina was a newcomer to the small community, on welfare, very broke, but with great ambition. She and her children needed dental work and she was very worried about how she was going to make a living for herself and her children because there seemed to be no job for her in the small community and work in the near-by city would require hiring a baby-sitter for the children. Besides she had no car, nor could she drive. The

only transportation available to her was that provided by new acquaintances or a bus which travelled to and from the city twice a day but required that she walk to the college to board it. The college was a twenty or thirty minute walk from her home.

Krystina's reading level was about a third-grade level when she began in the program. She attended every single meeting except one in Edinboro and she also attended every meeting in Erie while they were in session during the first semester. She rode to the Erie site with the instructor. She walked through rain and snow and became known as the "snow lady" to get to the sessions on her own in the small community. She is a very independent woman.

At first Krystina began working in Level C of the Barnell Loft Specific Skill books and at the lowest levels of the General Set of the Reading for Understanding kit (S. R. A.). She took work and many books home and continued to plow through all the levels of the Barnell Loft set and other graded sets of practice material.

During the second semester, Acting Director Robert McClune was able to help her acquire a position as janitress in one of the college dormitory buildings. Upon the Director's return, after a semester's sabbatical leave, a "new" Krystina presented herself for the post-test. She had cut her hair in a new style; her dental work was done; she had acquired glasses; she walked and talked with an air of confidence. Her children had also recieved needed dental work, glasses, and the health and appearance of the whole family had improved fantastically. Krystina was able to support hereself and her children now without the aid of welfare. She had conquered her own destiny through very

hard work and persistence plus the help of interested persons in the college community. She will enroll in the college developmental reading class this fall as a special student and has plans to take her G. E. D. test sometime during the coming year.

Lee is another student who did not miss a single meeting all year. Lee is deaf but can read lips and hear some with the help of a hearing aid. Mrs. Terwilliger worked intently with Lee. He made almost three years' growth in his reading skills and he also plans to continue study during the summer under Mrs. Terwilliger's guidance and he will also enroll as a special student in the college developmental reading course in the fall. He hopes that this will be the first of many college courses he will take for he would like to attend college while he continue his work as a machinist.

Although others in the group were not able to come to every single session all year long, each of the participants who stayed with the program made significant gains and indicated that they felt successful in their attempts at improving their reading skill and that their improvement made them feel better about themselves and more hopeful about their futures. All those in the group who did not have high school diplomas plan to take the G. E. D. test during the coming year.

The third objective of the project was to provide an ongoing program which would be voluntarily staffed by the students who participated in this project the first year; that is, these semi- or illiterate adults would teach others after becoming more literate through their participation in this one-year program. This objective depended

upon volunteer work to be done by students who were already struggling to make a living for themselves and their families. They were still under some handicap of limited communication skills and therefore it was not surprising to find that these students were not available to volunteer their time and effort another year to help someone else. They could have been held to their initial promise but an unwilling teacher is worse than no teacher at all.

Finding participants for the program was extremely difficult. It required much searching for adults who needed the course and were willing to admit they needed it and come to classes to improve their own basic reading skills. Word has now gotten out in the community and the nearby city agencies that this service is available and adults are still being referred to the director of this program for help.

The plans are to make the program an ongoing one. It will be staffed by volunteer teachers who are retired or not working for one reason or another. They will continue to work under the direction of the directors and help will be available for adults who want to come in once a week to work on improving their reading skills and are willing to work at home with materials suggested by a trained teacher. It is felt that these adults need the expertness of a trained teacher even though, with direction, they can become quite self-sufficient. When a student indicates interest in volunteering his/her help in teaching another, this aid will be accepted and the student will be trained to teach another. Teaching newly-learned skills strengthens those newly-learned skills for the teacher as well as the student. Both teacher and student profit from the interchange of instruction.

Transportation problems will prevent the students in the Erie Electric Company from being used as tutors for the location of the ongoing program will be at Edinboro. The goals had to be changed for this group of students so they were not asked to agree to do any tutoring the following year.

The fourth objective of the project was to provide a manual with guidelines and instructions designed to assist other areas in setting up similar adult basic reading programs. This manual is the subject of the following chapter of this report.

CHAPTER V

MANUAL

Adult illiterates and semi-literates are at least as varied and disparate from one another as any other category of human beings. We cannot, therefore, consider enough similarity in adults who are in need of basic reading skills to be sufficient to allow a manual to give exact instructions in instructing them. Another factor which causes variance in program patterns is the dissimilarity of one geographical area to another. Hunter and Harmon (pp. 110-113) identify four different general groups arbitrarily:

Group 1: Persons who have dropped out of school for personal reasons such as need to support or help support a family, early marriage, or school became uninteresting to them. Immigrants whose second language is English (but fairly well educated in their first language) are also included in this group. These people live within upwardly mobile groups and respond well to traditional classroom procedures and opportunities to learn.

Group 2: Persons who have left school very early and/or have never learned to read or write at all; literacy is taken for granted in their social groups so many of these people are in constant fear of being "found out" or embarrassed by not being able to carry out tasks at work and in their social life because of their illiteracy.

Group 3: The school and social failures in our society--they live in poverty areas and their illiteracy is only one problem among many for them; they have had little formal education and they work at menial jobs, often only intermittently. Job-training programs appeal to some of them. Some have dim hopes that things can be changed for them if they persevere.

Group 4: Hard core poor who have given up hope that anything they do will make any difference at all in their situation. They depend on institutional help and bureaucracies which help perpetuate their cycles of deprivation and alienation to the outside world--the "invisible poor" as described by sociologist Michael Harrington.

Before one can set up any program, one must know who will be the clients--the participants for the program. A homogeneous group is easier to plan for and work with than a heterogeneous group. To have the group more like one another, one would have to set up the program in an established institution or draw the clients from a highly populated urban area, grouping the clients according to likenesses. The answer to the question, Who?, will help one set the goals and the parameters of the program.

What do the clients want to learn? Defining the scope and the level of the reading skills desired by the clients needs to be known even before the method of instruction is chosen or the materials are purchased. Adults need individualized rather than prestructured help; many times they have something they want to learn right away and are not willing to wait until it happens to get presented formally in class. The programmed books in which they are working may seem irrelevant to their present day, everyday reading problem and reason for wanting better reading skills.

How much time will the clients have to devote to classes and to their study outside of class? How much energy level do they have? Psychological characteristics such as energy level, mental ability, aggressiveness in dealing with daily life problems, negative and positive perceptions about life, negative and positive perceptions about how others regard them, and perceptions about the worth of education will all have some

influence on the amount of time they are willing to devote to improving their own reading skills. Whether or not they are future-oriented, willing to sacrifice time and effort in the present for a future goal, will affect the time and the effort they are willing to put into their own improvement programs.

Participants in adult education courses are typically beset with personal problems which prevent regular attendance or cause early withdrawal. One of the ongoing problems of the person who has not learned how to cope with the educational system seems to be this inability or inaptitude to order one's life and to stay with a goal once it is established. One has only so much time, money, energy and power; can the participant afford to spend any of these on a reading improvement goal? That is, do they have any energy, time, or power left over after tending to the more basic requirements of their lives such as earning money, providing care for their children and families, or basic personal necessities.

These questions must be considered before determining how often the classes or individuals can meet and the length of the instructional periods as well as the length of the complete course. Most adults cannot persist in the same class for a complete year, say nothing of more than one year. The course needs a beginning and an end; adults seem to work best in a structured time-period of one semester--about three or four months. They can then have the option of beginning another class of a similar nature at either a higher level or a similar class having some basic difference, possibly in the type of skill being learned or focused on. This structure enables the participant to have a feeling

of progressing. Although adults like some structure to the format of the class such as length and time for the class, they also have a desire to set their own pace and use their own style of learning. Therefore the program needs to be kept flexible to allow for easy change when the requirements of the participants change.

Where will the classes be held? The site of the program must be carefully considered because lack of transportation was the most-frequent reason given for inability to attend either one or two class sessions or for the inability to enroll in the program at all. Since the population is usually poor, they are often wholly dependent on others or public transportation. Programs which take this factor into consideration and bring the program to the client rather than vice-versa would be much more effective. Many individuals living in the rural communities of Northwest Pennsylvania seek opportunities to acquire basic skills, but for one reason or another, are unable to travel to and from the classes held in locations outside their immediate communities.

When will the classes be held? If the participants are working, their hours during the day are usually taken so evening hours are most often selected for the class times. Adults seem to be able to meet once a week more easily than more than once a week even if the time-period os the class is longer. This also eliminates or lessens some problems related to transportation and child-care. Some adults work swing shift or are not able to meet evening classes so often two time slots are preferable to one; one a night and one in the morning. An open reading laboratory for several hours during the day seems like an ideal situation; however, if a place is readily available almost any

time, the participants tend to procrastinate. In any case, a definite time and place needs to be established for each participant so that a study habit and atitude is formed and so consistent attendance is encouraged. Success is highly dependent on consistent attendance and perseverance.

How will the program be advertised? Articles need to be written explaining the program, stating the facts about the location and time of the program and giving a phone call to give further information. These articles need to be distributed to the newspapers and radio stations in the area. Radio or television interviews can be planned. Notices can be placed on bulletin boards in various community institutions. Social and welfare agencies in the community need to be notified by letter and follow-up telephone calls need to be made. The community leaders in the various institutions need to become aware of the program so that they can refer clients to it. Word-of-mouth advertisement from the students can be most effective; this requires that the students are not hesitant to tell others that they were or are in a basic reading development course. Clientele for these basic reading programs are slow-coming so once a program is set up there should be some continuity of site and time so it will become generally known and accepted as a community service.

What kinds of reading materials should be ordered? The director needs to know much about the participants, their goals and their reading levels before individualized materials are purchased for them. She/he also must have knowledge of available material that can be used appropriately for adults with basic reading problems. Much of this knowledge comes gradually through studying and using adult basic

reading material as well as studying bibliographies and catalogs of adult basic reading material. One has to be ready with basic materials at several levels; the multi-level labs, kits and various sets of multi-level skillbooks are especially helpful. After pre-testing, the instructor can place the student at his appropriate starting level as she/he studies the student's reading pattern and discusses specific goals. In a rural area, one would expect a more heterogeneous group of participants so it is mandatory that basic materials be available on many different levels of reading. As the instructor becomes acquainted with the student's reason for wanting help and the student's goals, other material will be needed such as books or programs of a specific nature.

The community needs to be researched to find knowledgeable people who can act as resource experts; much needs to be known about available help in the community so that the student can be referred to the right person or agency for that help. Schools and public libraries also need to be researched for interesting, easy-to-read material on various subjects so that one can match the reading material to the interest level of the student.

How will I find or know the clients' reading levels? One should study the many tests available for adults. Some of these are listed in the bibliography of this paper. Some tests written for secondary or elementary students may be used also but these need to be evaluated in terms of content and style. They must appeal to adults and not use childish stories. One should be careful to avoid overtesting or making the adult student anxious about tests. Individual tests take longer to administer than group tests but usually give more information because one can observe individual reaction and behavior more closely.

The Woodcock Reading Mastery Tests are individual tests and the norm-group included students from first through twelfth grade. These tests take about an hour to administer. They could be used when clients come in for the initial interview; the Woodcock Tests will reveal a great deal about a person's reading level and reading pattern. The tester could then have an idea if the person were qualified for the basic reading program and what kind of materials needed to be obtained to begin the tutoring process. This test can also serve as a pre-test so that growth can be measured by giving another form of the same test. If the client seems to read close to the ceiling level of the test administered, a more difficult one should also be given. Suggested tests for more advanced students might be the Davis Reading Tests or the McGraw Reading Test of the Basic Skills Study System.

Individual informal inventories are also an excellent means of finding a general starting level. Many of these informal reading inventories are listed in the bibliography. The multi-level kits and books also have pre-tests or placement tests which accompany them. The student takes these, corrects them himself, and thus finds his beginning place in the kit or book; adults tend to feel that because they check these themselves, they are not "real tests" and have less anxiety about them.

Who should teach and aid in teaching? The adult basic student has just as much need for a professional teacher as any other student. Teaching is not so simple that anyone can do it well and certainly the untrained would be expected to have more problems than someone who is trained. Many learning problems can, in fact, be caused by poor teaching.

As well as being knowledgeable about the methods and materials to use, the personal characteristics of the teacher and aide are of utmost importance. The clients need to feel that the teacher and the aide are approachable and that they are taking the client's problem seriously. The client wants someone who is knoledgeable or knows where specific information can be found. They want to feel that the tacher and the aides are willing to spend their time helping them and that they are considered equal human beings who should be respected. The teacher should want to produce a warm, relaxed atmosphere in which everyone feels free to talk and where the student will get encouragement and support. The learner needs to feel that the teacher and aides have confidence in their ability to learn, in the ability to progress, and in their ability to plan their own goals. The teacher and aides need to be able to listen to the students--listen, understand, accept and then respond, tailoring their responses to the students' needs, goals, and requests. The teachers and the aides need also to be human which includes keeping their own personalities intact so they come across as real and spontaneious people.

How much will the program cost and who should pay for it? After the basic, reusable materials are purchased, the cost will vary with the size and type of program. The basic costs will include professional help, materials, communication and dissemination expense, testing and travel expenses. The largest cost item will be the salaries of the teachers and aides. Sometimes volunteer help is available in a community but a well-planned and operated program requires the commitment of some paid professional personnel as well. Sets of re-usable, multi-level materials need to be purchased initially as core materials.

Money needs to be available to purchase new items as they become marketed and to replace old materials which become used or lost. Money also needs to be available to purchase materials for new and specific needs as one encounters them. Much of the easy-reading materials is in paperback form which makes them relatively inexpensive but also less durable.

Transportation of either the program to the students or the students to the program needs to be considered as this is the main deterrent for many students in attending the classes. The clients are typically poor because they are in need of reading skills among other skills to make a better living; therefore they cannot be realistically expected to pay for these classes. At the same time, it seems to be human nature to put worth only on those things which cost something so some way to allow the students to commit themselves to the program needs to be considered. The students' lack of time, energy and their lack of money prevent payment and may cause some to drop-out and fel guilty if restrictions have been attached to attending the program such as requiring that they spend time helping others in repayment for their reading help. Helping themselves requires such a great effort and sacrifice on their part that they simply do not have the energy or time to devote to another person as well as get ahead themselves. They are usually just barely keeping their heads above water in their work and family commitments.

All of these questions need to be considered and were considered by the directors of the program in Edinboro and Erie. As the program progressed, the objectives had to be changed to tailor it to the needs of the students and the community. The project directors sought to identify adults within a 30-mile radius of Edinboro; the program was announced in regional newspapers, radio stations, and put on community

bulletin boards. Letters were sent to various leaders of various social and welfare agencies in the Edinboro-Erie community. Sessions were held at two sites: one in Edinboro and the other at a central location in the city of Erie which was accessible via bus. Some students attended all year but many had difficulty attending regualrly because of transportation, work, family, or personal problems.

The individualized program was continued the second semester and a new group was added to make the program available to a greater number of participants who also had the need for improved language and reading competencies. Thirty-six adults with definite vocational goals were identified at the Genral Electric Plant in Eri, Pennsylvania; they were machinist trainees. Reading instruction was provided for them at their plant two times a week. In addition to basic vocabulary, word attack and comprehension skills, an emphasis was placed on technical vocabulary for toolmakers and machinists and skills needed for successful living. (See Appendix for samples of this material).

Other areas interested in setting up basic adult reading programs need to contemplate the questions posed in this manual in relation to their own communities, personnel, and perspective clients. People want to learn to read for a variety of reasons--some of these reasons are personal, job-related, or recreational. One common reason is to be able to read the Bible and learn more about one's religion. The program requires practical, professional people who are in tune with their perspective clients and their communities, people who will consider each adult sutdent's reading problem as unique and help him/her reach his/her goals realistically and then help find answers for the student's specific reading need.

APPENDIX B

Advertisement of the Programs

ADVERTISING THE PROGRAM

The program was announced in regional newspapers and radio stations, on various community bulletin boards, in letters to leaders of various social and welfare agencies. Telephone calls were made to these leaders to follow-up on any leads. The following is a partial-list of people and institutions contacted.

Bureau of Vocational Rehabilitation
Community Drop-In Center
Community Service Center
Council on Volunteers for Erie County
Education and Work Council
Erie County Department of Employment & Training (Meg Fratus)
Florence Crittenton Services
Farmworkers Organization (Mary Asmonga)
Family Counseling Services
Greater Erie Community Action Committee (Michele Thorton and Karen Case, Director)
Hermitage House
Hispanic American Council Inc. (Mrs. Briody)
Opportunities Industrialization Center, Inc.
Inter-Church Ministries (Molly Harper)
Salvation Army (Esther Johnson)
Women's Center of Erie
Harold Maynard. Union City
Jim Sonney, Harborcreek Municipal Building
Bureau of Vocational Rehabilitation
Employment Security Bureau of PA
Probation and Parole Board of PA
Department of Public Welfare
Booker T. Washington Center (Mrs. Blockett)
Martin Luther King Center (Minnie Levine)
Jewish Community Council
Indo Chinese International Institute (Mrs. Helen Metz)
Tom Schneider
Dr. Phillips, Iroquois High School
Dr. Mulvin, Harborcreek High School

A radio interview was set up between Dr. Beulah Polley and Announcer Jim Van Donegan, WQLN on 8/2/80. The program was explained during the interview.

10/6/80 - Sent out letters to all union members through the Erie Central Labor Council.

10/7/80 - Attended a luncheon with the Erie Central Labor Council to explain the reading program.

EDINBORO STATE COLLEGE
EDINBORO, PENNSYLVANIA 16444
PAUL NEWMAN
PUBLIC RELATIONS
PHONE: 814-732-2745 or 2929

FREE ADULT READING PROGRAM OFFERED BY EDINBORO

A tuition-free basic reading program, designed to aid adults of all ages to sharpen their reading and communications skills, will be offered at Edinboro State College beginning September 3. The major thrust of the program is to enable adults to return to school and qualify for a vocational training program, acquire a better job, begin an academic degree, or seek personal improvement.

Dr. Beulah Polley, who has had extensive training in reading and adult education, will direct the program. She has been a member of the Edinboro State College faculty for the past 12 years and was a reading specialist in the public school systems of Colorado and Wyoming before coming to Edinboro.

"This is a practical, how-to-do-it program that will help adults gain the skills they need to get the most out of life," explained Dr. Polley. "The individualized instruction provided will allow students to work at their own level and set their own pace," she continued.

One focus of the new program will be to improve reading skills for economic reasons. Many who need to improve their reading and writing skills have not completed high school for one reason or another and are having difficulty finding and keeping employment. The program will address the reading problems related to both finding a job, doing reading tasks on the job, and addressing reading problems related to personal concerns.

Those interested in the tuition-free reading program may call 814-732-2521 or 2806 for additional information.

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8/14/80
PWN:ps1

Announcing:

ADULT BASIC READING COURSE

For: Adults reading at elementary levels

No tuition cost - Grant Program

EDINBORO: Wednesdays
6:00 - 9:00 P.M.
Miller Learning
Research Center 136

ERIE: Thursdays
5:00 - 8:00 P.M.
Glenwood United
Methodist Church
2931 Myrtle St.

Call Dr. Beulah Polley, Director, Adult Basic Reading
Edinboro State College
732-2521 or 734-4343

Edinboro State College

Edinboro, Pennsylvania 16444
Elementary Education Department
Telephone: (814) 732-2750

SCHOOL OF EDUCATION

TO: Fraternal Association of Steel Haulers
2413 W. 26th St.
Erie, PA 16512

FROM: Dr. Beulah Polley, Director
Adult Basic Reading Program
Phones: (814) 732-2521 (814) 734-4343

RE: Students for new program

You are in a unique position to help me help others, for you can identify adults who would benefit from a new, tuition-free adult basic reading program. Edinboro State College has received a grant from the Division of Adult Education and Training Programs to provide instruction for adults who read within the range of from grade 4.0 to 7.0 when their reading is measured by standardized tests.

Certain labor unions have co-sponsored or developed programs of their own in response to the specific needs of their members according to Edgar Lee Rosenthal of the Labor Education Center at Rutgers University. Examples are the Seaman's International Union's school at Piney Point, Maryland where the claim is made that their students learn to read through studying their union's constitution, working on a newsletter and using other innovative methods rooted in their needs as seamen. Local 3 of the International Brotherhood of Electrical Workers increase the skills of many of its members by training them to be basic education teachers to fellow members of the union.

Two sites have been set up for the adult reading classes:

Edinboro - Miller Learning Research Center - Wednesdays 6:00 - 9:00

Erie - Glenwood United Methodist Church - Thursdays 5:00 - 8:00

If these sites and times are inconvenient, other arrangements could be negotiated.

I would like you to consider adults who would profit by becoming involved as either students or tutors. I am enclosing an announcement of the course for posting. An on-going program would benefit many--individuals involved, the companies for which these individuals work, and the community as a whole. Won't you join me in developing this concept?

Beulah M. Polley

ADULT BASIC READING AT EDINBORO STATE COLLEGE

A tuition-free basic reading program will start Sept. 3 at Edinboro State College. It is designed to aid adults of all ages to sharpen their reading and communication skills and learn how to learn more effectively. The intention of the program is to enable adults to come back to school in order to qualify for a vocational training program, acquire a better job, begin an academic degree, or seek personal improvement and the simple pleasure of learning something new. It is a practical, how-to-do-it program, one that will help adults gain the skills they need to get the most out of life. Specifically, the program will provide individualized instruction in a broad range of reading tasks for various reading ability levels. "Students work at their own levels. This course is different from a lot of others in that it takes people where they are and allows them to move at their own rate," explains Dr. Polley, the director of the program. "A student is in competition only with himself. It is a good preparation for more competitive situations."

One focus of the new program will be to improve reading skills for economic reasons. Many who need to improve their reading and writing skills have not completed high school for one reason or another and are having difficulty finding and keeping employment. For example, when a company has a large manpower pool to choose employees from, those with reading problems are often the last hired. And when a company must reduce its work force, they are

likely to be among the first fired. Accordingly, the program will address the reading problems related to both finding a job and doing reading tasks on the job. Examples of reading tasks related to jobs are reading job descriptions and completing applications, reading about the law as it applies to employment rights, comprehending occupational vocabulary, and reading paycheck stubs.

The program will also address reading problems related to personal concerns. Commenting about her own personal reasons for participating in such a program, Mrs. Isabel Weston, age 71, said, "I felt my mind needed stirring up. It gets to the point where I don't activate it enough." Reading tasks related to other personal concerns might include reading newspapers and magazines for enjoyment; comprehending rental and ownership documents; understanding propaganda devices, advertising techniques and consumer fraud; and coping with signs, labels, coupons and catalogs.

The director of this adult basic reading program is Dr. Beulah Polley. Dr. Polley has had extensive training in reading and adult education at the University of Northern Colorado and the University of Montana. She has been on the Edinboro State College faculty for the past twelve years and was a reading specialist in both elementary and high schools in Colorado and Wyoming before coming to Edinboro.

The program is open to young people over 15 years of age, older adults, and senior citizens. A high school diploma is not required but the course is also open to college students. Anyone interested in the program should call 732-2521 or 732-2806 for further information.

ADULT BASIC READING COURSES OFFERED IN ERIE AND IN EDINBORO

A tuition-free basic reading course is being offered by Edinboro State College this year in both Erie and Edinboro for adults over the age of 16. These courses are being taught by Dr. Buelah Polley at the following places and times:

Edinboro - Miller Learning Research Center - Wednesdays 6:00 - 9:00
Erie - Glenwood United Methodist Church Basement - Thursdays
2931 Myrtle, Erie 5:00 or 6:00 - 9:00

It is not too late to participate in these classes. Call Dr. Polley at 732-2521 or 734-4343 or come to one of the classes listed above.

Each student is competing only with himself or herself. That is, the student's level and abilities will be diagnosed and then the student will work at his/her own speed to accomplish his/her own reading goals.

The program is designed to help adults of all ages to sharpen their reading skills and to help them gain the skills needed to get the most out of life. Adults throughout the United States are taking this course for various reasons. Some want to qualify for other vocational training; some want to prepare themselves for more competitive classes; others take the course just for the simple pleasure of learning something new or they take it to learn how to read English better if they are learning English as a second language.

One focus of the course will address the reading skills needed to find a job and to do reading tasks on a job. Some examples of these reading tasks would be reading job descriptions, completing application forms, understanding occupational vocabulary or reading about the law as it applies to employment rights.

Another focus will be on analyzing words and sentences as well as paragraphs and articles to improve the communication ability of the reader and writer.

Independent
Meadville Tribune
Erie Times

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EDINBORO STATE COLLEGE

EDINBORO, PENNSYLVANIA 16444
PUBLIC RELATIONS OFFICE
PHONE: 814-732-2745 or 2929

FOR IMMEDIATE RELEASE

ADULT BASIC READING PROGRAM OFFERED AT EDINBORO STATE COLLEGE

A free adult basic reading program will be offered at Edinboro State College from January 14th through May 15th, 1981. The program is offered to help adults of all ages improve their reading and communication skills. It is intended to enable adults to qualify for vocational training programs, acquire reading skills to function better in present jobs, to qualify for promotions, to improve their reading skills prior to beginning a college degree program, or to attain personal improvement for leisure time and recreational reading.

The program will provide a wide variety of individual reading activities, chosen by the participants in accordance with their specific interests and needs. Participants amy progress rapidly or slowly based upon the amount of time they choose to commit to the program.

The program will meet in the Miller Learning Center at Edinboro State College on Wednesday evenings. Participants may begin as early as 5:00 p.m. and continue as long as they choose, or they may choose to begin at a later hour. The time and length of individual participation is very flexible to meet individual needs and desires. Media and materials in the College Reading Clinic, the Developmental Reading Programs, and others, purchased or developed specifically for this program, will be available for use.

Dr. Robert McClune is director of the program, assisted by Ms. Marian Terwilliger. Both have had years of experiences in teaching reading at all levels. Anyone interested in participating in the program is invited to call

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the Elementary Education office, 732-2750 or 732-2751 for information. There are no costs for the participants of the program.

-30-

GD:alk
1/15/81

READING FOR ADULTS

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O YOU WANT TO IMPROVE YOUR READING SKILLS?

- for job advancement?
- for job opportunities?
- for social gains?
- for personal benefits?

A free reading improvement program is being offered during January through May, 1981, in the Miller Learning Center at Edinboro State College - Room 152 - 6:00 - 9:00 p.m.
Wednesday Evenings

A wide variety and different levels of materials are available for the participants' uses on an individual choice basis. Teachers are available to assist participants.

There are no costs for participants, no grading, no required attendance or assignments. You do as little or as much as <u>you</u> choose.

IF YOU ARE INTERESTED IN PARTICIPATING IN THIS PROGRAM, COME TO THE MILLER LEARNING CENTER, ON THE CAMPUS OF EDINBORO STATE COLLEGE, ROOM 152 ANY WEDNESDAY EVENING FROM 6:00 - 9:00 pm January 28 thru May 13th, 1981.

For Additional Information, call 732-2750 -
The Elementary Education Office
Robert McClune, Program Director

January 13. 1981

ADULT BASIC READING PROGRAM OFFERED AT EDINBORO STATE COLLEGE

A free adult basic reading program will be offered at Edinboro State College during the period of January 14th through May 15th. 1981. The program is offered to help adults of all ages t o improve t heir reading and communication skills. It is intended to enable adults to qualify for vocational training programs. acquire reading skills to function better in present jobs. to qualify for promotions. to improve their reading skills prior to beginning a college degree program. or to attain personal improvement for leisure time and recreational reading.

The program will provide a wide variety of individual reading activities, chosen by the participants in accordance with their specific interests and needs. They may progress rapidly or slowly based upon the amount of time they choose to commit to the program.

The program will meet in the Miller Learning Center at Edinboro State College on Wednesday evenings. They may begin as early as 5:00 p.m. and continue as long as they choose. They may choose to begin at a later hour. The time and length of individual participation is very flexible to meet individual needs and desires. Media and materials in the College Reading Clinic. the Developmental Reading Programs. and ot hers. purchased or developed specifically for this program will be available for use of the participants.

The ability to read is playing an ever-increasingly important role in most jobs. vocations. trades. and professions within our contempory society. It is important for successful living in our increasingly complex society characterized by change, by rampant inflation. and continued advances in communications. computerization. automation. and other technology. Yet, many adults. for a variety of reasons. did not have opportunities to develop adequate reading competencies. This program offers opportunities for participants to attain greater reading competencies.

Dr. Robert McClune is director of the program, assisted by Ms. Marian Terwilliger. They have had years of experiences in teaching reading at all levels. Anyone interested in participating in the program is invited to call the Elementary Education office. 732-2750 or 732-2751 for information about the program. There are no costs for the participants of the program.

EDINBORO STATE COLLEGE
EDINBORO, PENNSYLVANIA 16444
SCHOOL OF EDUCATION
Elementary Education Department
Telephone: (814) 732-2750

January 13, 1981

Dr. Burton Witthuhn, Assistant Dean
Office of Academic Affairs
Earlley Hall
Edinboro State College

Dear Dean Witthuhn:

During the First Semester of the 1980-81 Academic Year, Dr. Beulah Polley served as director of the Adult Basic Reading Program. Since she is on leave during the Second Semester, I am serving as the program director.

This program, funded by a grant, provides opportunities for adults in the community to upgrade their reading competencies. are no costs for participants.

The program, originally proposed by Dr. Jimmy Cook, no longer a member of the faculty, is intended primarily for individuals needing basic reading instruction. Dr. Polley worked very hard during the first semester to obtain participants. She really was able to get just a few---perhaps eight or nine on a regular basis. She held sessions in the Miller Learning Center, at Glenwood Methodist Church in Erie, and even taught individuals in her home.

This semester, I am in the process of arranging for a class for machinist trainees at the General Electric Plant in Erie. I will also hold a class on Wednesday evenings, 5:00 p.m. through 9:00 or 9:30 p.m. in Miller Learning Center, Room 136. Participants may arrive at a convenient time and leave when desired.

Since I can provide reading activities for many more than eight or nine students, I am opening up enrollment opportunities to Edinboro undergraduate students whose records indicate poor achievement in courses. Some have even completed our Developmental Reading course and still indicate very low reading competencies. Since you often meet with students with academic problems and work with counselors of these students, I will appreciate it if you refer students to me for possible reading instruction on Wednesday evenings. This would not be for credit and it would not cost them anything.

EDINBORO STATE COLLEGE
EDINBORO, PENNSYLVANIA 16444
Elementary Education Department
Telephone: (814) 732-2750
SCHOOL OF EDUCATION

It is my understanding that Ms. Polley did try to make this reading program available to college students last semester, but none enrolled.

While opening up the program to college students was not a purpose of the program, it is t he purpose to provide for adult basic reading needs. Certainly individuals striving to progress in Edinboro State College programs, but handicapped by low reading competencies, do have a need for basic reading instruction and can attain greater skills if they are willing to make commitments.

Thank you,

Robert McClune

Robert McClune, Professor
Elementary Education
Room 213 - Butterfield

Copy to Dean Farabaugh

Enclosure: Newspaper Announcement

EDINBORO STATE COLLEGE
EDINBORO, PENNSYLVANIA 16444
PUBLIC RELATIONS OFFICE
PHONE: 814-732-2745 or 2929

FOR IMMEDIATE RELEASE

ADULT BASIC READING PROGRAM OFFERED AT EDINBORO STATE COLLEGE

A free adult basic reading program will be offered at Edinboro State College from January 14th through May 15th, 1981. The program is offered to help adults of all ages improve their reading and communication skills. It is intended to enable adults to qualify for vocational training programs, acquire reading skills to function better in present jobs, to qualify for promotions, to improve their reading skills prior to beginning a college degree program, or to attain personal improvement for leisure time and recreational reading.

The program will provide a wide variety of individual reading activities, chosen by the participants in accordance with their specific interests and needs. Participants amy progress rapidly or slowly based upon the amount of time they choose to commit to the program.

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Dr. Robert McClune is director of the program, assisted by Ms. Marian Terwilliger. Both have had years of experiences in teaching reading at all levels. Anyone interested in participating in the program is invited to call

-more-

the Elementary Education office, 732-2750 or 732-2751 for information. There 62
are no costs for the participants of the program.

-30-

GD:alk
1/15/81

APPENDIX C

Description of Students & Scores

Individualized Group

INDIVIDUALIZED STUDENTS

Name	Age	Occupation
	21	Truck Greaser
	19	College Student
	21	Construction
	30	Machinist
	19	College Student
	40	Machine Operator
	19	College Student
	37	Aide-School Cafeteria
	19	College Student
	47	College Student-Machinist
	21	Amthor Steel
	25	Nursing Assistant
	20	Day Care Attendant
	43	Barber
	24	Housewife
	17	College Student
	19	College Student
	34	Maid in Hotel
	37	Pipe Organ Supply
	33	Welfare-Mother
	41	School Cafeteria
	27	Divorced-Mother
	23	Mechanic
	35	United Parcel Service
	19	College Student
	38	Housewife

Grade Completed	Marital Status & Children	Sex	First Language	Time in Program
Special Ed.	S	M	English	1 semester
12	S	F	English	3 sessions
11	S	M	English	6 sessions
12(Deaf)	S	M	English	All year
12(Deaf-part)	S	F	English	1 semester
10	M-2	M	Russian	8 sessions
12	S	M	English	1 semester
12	W-5	F	English	1½ semester
12	S	M	English	1 semester
GED + (9)	M	M	English	1 semester
10	S	M	English	3 sessions
12	M-Expec.	F	English	1 semester
8	S-1	F	English	3 sessions
4	M-1	M	English	All year
9	M-1	F	English	All year
12	S	M	English	1 semester
12	S	F	English	2 sessions
10	M-2	F	Russian	8 sessions
10	M-2	M	Russian	8 sessions
7	S-3	F	Polish	All year
12	M	F	English	1½ semester
6	D-2	F	English	1½ semester
12	S	M	English	All year
12	M-2	F	English	10 sessions
12	S	M	English	1 semester
12	M-2	F	English	2 sessions

FORM A WOODCOCK INDIVIDUAL

Name	Word Comprehension Raw	Mastery	Gr.Lev.	Passage Comprehension Raw	Mastery	Gr.Lev.
	11	58	2.0	13	63	1.8
	40	100	6.9	75	137	12.9
	12	60	2.0	23	77	2.6
	32	89	4.4	54	112	6.2
	33	90	4.6	57	115	6.7
	19	72	2.7	15	66	2.2
	32	89	4.4	51	109	5.7
	33	90	4.6	53	111	6.0
	37	96	5.8	53	111	6.0
	41	101	7.1	63	121	8.1
	36	94	5.3	61	119	7.6
	25	80	3.3	57	115	6.7
	16	67	2.4	39	73	2.4
	28	84	3.7	38	95	3.9
	31	88	4.2	66	125	9.2
	45	107	9.3	65	123	8.9
	46	108	9.7	64	122	8.4
	16	67	2.4	7	51	1.5
	14	63	2.2	23	77	2.6
	24	78	3.1	39	96	4.0
	44	105	8.4	73	134	12.9
	35	93	5.1	60	118	7.4
	47	110	10.3	67	126	9.5
	41	101	7.1	48	106	5.3
	32	89	4.4	68	127	9.5
	43	104	8.0	80	147	12.9

WOODCOCK TEST

FORMS A AND B

FOR INDIVIDUALIZED STUDENTS

Mastery Scores

Name	Word Comprehension			Passage Comprehension		
	Pre	Post	Growth	Pre	Post	Growth
	89	115	+26	112	126	+14
	90	115	+25	111	149	+38
	84	127	+43	95	127	+32
	88	133	+45	125	132	+ 7
	78	100	+22	96	109	+13
	105	135	+30	134	153	+19
	93	109	+16	118		+ 9
	110	133	+23	126	140	+13

WOODCOCK TEST

COMPARISON OF ALL TESTS ON FORM A

WITH ALL TESTS ON FORM B

(For Individualized Students Completing One Full Year of Study)

TEST: LETTER IDENTIFICATION	Mastery Scores			Reading Grade Scores		
Name	Pre	Post	Growth	Pre	Post	Growth (years)
	184	184		12.9	12.9	
	184	184		12.9	12.9	
	165	184	+19	4.3	12.9	8.6
	160	184	+24	3.8	12.9	9.1
	160	173	+13	3.8	6.2	2.4
	184	184		12.9	12.9	
	173	184	+11	6.2	12.9	6.7
	184	184		12.9	12.9	

TEST: WORD IDENTIFICATION	Mastery Scores			Reading Grade Scores		
Name	Pre	Post	Growth	Pre	Post	Growth
	184	200	+16	4.8	6.9	2.1
	207	222	+15	8.3	12.9	4.6
	151	186	+35	3.0	5.0	2.0
	204	228	+24	7.6	12.9	5.3
	196	214	+18	6.2	10.3	4.1
	220	244	+24	12.9	12.9	
	218	240	+22	11.8	12.9	1.1
	193	205	+12	5.8	7.8	2.0

TEST: WORD ATTACK	Mastery Scores			Reading Grade Scores		
Name	Pre	Post	Growth	Pre	Post	Growth
	95	100	+ 5	2.9	3.4	.4
	101	102	+ 1	3.5	3.6	.1
	79	88	+ 9	1.9	2.3	.3
	111	116	+ 5	4.9	6.1	1.2
	113	123	+10	5.4	10.1	4.7
	125	135	+10	12.3	12.9	.6
	130	135	+ 5	12.9	12.9	
	116	119	+ 3	6.1	7.0	.9

WOODCOCK TEST COMPARISON OF ALL TESTS ON FORM A WITH ALL TESTS ON FORM B

(For Individualized Students Completing One Full Year of Study)

TEST: WORD COMPREHENSION

Name	Mastery Scores Pre	Post	Growth	Reading Grade Scores Pre	Post	Growth yrs.
	89	115	+26	4.4	11.6	7.2
	90	115	+25	4.6	11.6	7.0
	84	127	+43	3.7	12.9	9.2
	88	133	+45	4.2	12.9	8.7
	78	100	+22	3.1	6.9	3.8
	105	135	+30	8.4	12.9	4.5
	93	109	+16	5.1	10.0	4.9
	126	133	+ 7	10.3	12.9	2.6

TEST: PASSAGE COMPREHENSION

Name	Mastery Scores Pre	Post	Growth	Reading Grade Scores Pre	Post	Growth
	112	126	+14	6.2	9.5	3.3
	111	149	+38	6.0	12.9	6.9
	95	128	+33	3.9	9.9	6.0
	125	132	+ 7	9.2	12.2	3.0
	96	109	+13	4.0	5.7	1.7
	134	153	+19	12.9	12.9	
	118	127	+ 9	7.4	12.9	5.5
	126	140	+13	9.5	12.9	3.4

TEST: TOTAL READING (Including all 5 sub-tests)

Name	Mastery Scores Pre	Post	Growth	Reading Grade Scores Pre	Post	Growth
	133	145	+12	4.8	7.5	2.7
	139	154	+15	5.8	11.3	5.5
	115	143	+28	3.3	6.8	3.5
	138	158	+20	5.6	12.9	7.3
	129	144	+15	4.4	7.2	2.8
	153	170	+17	10.9	12.9	2.0
	146	159	+13	7.8	12.9	5.1
	145	156	+11	7.5	12.3	4.8

G. E. Class

GE CLASS

Name	Raw	Word Comprehension Mastery	Gr.Lev.
	63	142	12.9
	54	122	12.9
	57	127	12.9
	55	123	12.9
	50	115	11.6
	53	120	12.9
	54	122	12.9
	40	100	6.9
	52	118	12.4
	52	118	12.4
	51	116	11.9
	64	145	12.9
	68	161	12.9
	52	118	12.4
	52	118	12.4
	50	115	11.6
	55	123	12.9
	50	115	11.6
	51	116	11.9
	40	100	6.9
	55	123	12.9
	54	122	12.9
	57	127	12.9
	60	134	12.9
	57	127	12.9
	50	115	11.6
	67	156	12.9
	46	108	9.7
	63	142	12.9
	60	134	12.9
	60	134	12.9

WOODCOCK MODIFIED GROUP FORM A

Raw	Passage Comprehension Mastery	Gr.Lev.	Age	Sex
82	153	12.9		F
79	144	12.9	20	M
78	142	12.9		
81	149	12.9	23	F
73	134	8.9	18	M
80	147	12.9	18	F
79	144	12.9		M
72	132	12.2		M
69	128	10.2		M
78	142	12.9		M
77	140	12.9		
75	137	12.9		F
84	165	12.9	26	F
84	165	12.9	20	M
79	144	12.9	22	M
70	130	11.0	25	F
82	153	12.9	24	M
78	142	12.9	19	M
80	147	12.9	21	F
75	137	12.9		
71	131	11.6		
82	153	12.9	28	M
79	144	12.9		M
72	132	12.2		
78	142	12.9	27	M
79	144	12.9		M
83	157	12.9		F
72	132	12.2	24	M
81	149	12.9		M
84	165	12.9		M
76	138	12.9		F

FOR GE STUDENTS

Mastery Scores

Name	Word Comprehension Pre	Post	Growth
	142	169	+27
	122	135	+13
	127	140	+13
	123	127	+ 4
	115	122	+ 7
	101	130	+29
	120	137	+17
	100	135	+15
	116	122	+ 6
	145	137	- 8
	161	152	- 9
	115	134	+19
	115	126	+11
	116	130	+14
	100	124	+24
	123	130	+ 7
	122	146	+24
	127	130	+ 3
	134	130	- 4
	127	146	+19
	115	116	+ 1
	156	140	-16
	142	149	+ 7
	134	146	+12
	134	133	- 1

WOODCOCK TEST FORMS A AND B

Passage Comprehension		
Pre	Post	Growth
153	157	+ 4
144	144	+ 0
142	140	- 2
149	154	+ 5
134	136	+ 2
122	123	+ 1
147	147	+ 0
132	136	+ 4
140	140	+ 0
137	147	+10
165	164	- 1
130	140	+10
142	144	+ 2
147	142	- 5
137	130	- 7
131	139	+ 8
131	139	+ 8
144	147	+ 3
132	144	+12
142	149	+ 7
144	137	- 7
157	147	-10
149	149	+ 0
135	137	+ 2
138	139	+ 1

A.M.O.T. PARTICIPANT SCORES ON WOODCOCK READING MASTERY TESTS, administered April 27 and 30, 1981

Name. (arranged from high to low on Total Reading Mastery Score-April)	Total Reading Mastery Scores: January	April	Letter Identification	Word Identification	Word Attack	Word Comprehension	Passage Comprehension	Total Reading
	864	907	50*	98	94	99	94	99
	906	886	50	98	94	99	90	99
	849	871	50	94	96	98	77	99
	855	870	50	98	94	96	82	99
	838	867	50	98	84	99	82	98
	813	857	50	91	94	85	72	94
	829	853	50	98	94	84	65	97
	825	849	50	98	94	85	53	96
	853	847	50	98	83	84	77	92
	856	847	50	98	94	97	25	94
	834	846	50	98	84	96	47	94
	871	840	50	91	74	94	82	92
	-	840	50	91	94	72	72	92
	826	830	50	98	74	68	68	88
	829	820	50	82	94	57	57	83
	863	820	50	75	43	97	80	83
	788	819	50	91	66	77	68	83
	841	819	50	70	94	70	38	83
	833	803	50	70	55	77	77	73
	785	791	50	54	72	84	82	58
	734	788	50	58	50	77	57	54
	770	785	50	42	27	94	65	54
	788	820	50	50	33	87	60	54
	812	777	50	50	27	77	62	46
	772	777	50	54	55	57	50	46
	755	762	50	45	31	62	40	35
	776	761	50	35	55	43	45	35
	739	750	50	15	11	77	65	29
	722	750	50	15	11	77	65	29
	820	Last four persons were absent during the class testing date in April, 1981						
	780							
	780	*Letter identification test not administered. Credit for a perfect score is given (50)						
	762	and 50 Percentile is the score for high school senior norms.						

Nineteen participants attained higher scores on Form B than on Form A. Nine scored lower. Five did not take test both times.

The Median Percentile Score for the Total Tests on Form B was 83. Obviously, this indicates that A.M.O.T. participants, as a group, do not need basic reading improvement skills. They could benefit from critical reading, speed reading, and instruction in specific machine technical terms.

Chinese Classes

CHINESE CLASS 7801

Chinese Name	Name	Word Comprehension Raw	Word Comprehension Mastery	Word Comprehension Gr.Lev.
		31	88	4.2
		34	92	4.9
		35	93	5.1
		36	94	5.3
		37	96	5.8
		37	96	5.8
		38	97	6.0
		38	97	6.0
		39	98	6.3
		40	100	6.9
		41	101	7.1
		41	101	7.1
		42	103	7.7
		42	103	7.7
		42	103	7.7
		43	104	8.0
		43	104	8.0
		44	105	8.4
		44	105	8.4
		45	107	9.3
		46	108	9.7
		47	110	10.3
		49	113	11.2
		50	115	11.6

WOODCOCK MODIFIED GROUP FORM A

Passage Comprehension Raw	Mastery	Gr.Lev.	Age	Sex
48	106	5.3	24	M
47	105	5.1	25	F
53	111	6.0	21	M
54	112	6.2	21	F
55	113	6.4	28	M
46	104	5.0	20	M
55	113	6.4	21	F
47	105	5.1	21	M
54	112	6.2	22	F
60	118	7.4	21	F
56	114	6.5	27	F
43	100	4.5		F
50	108	5.5	21	F
49	107	5.4	25	F
60	118	7.4	23	M
59	117	7.2	24	F
52	110	5.9	22	M
64	122	8.4	21	F
51	109	5.7		M
43	100	4.5		M
50	108	5.5	24	F
68	127	9.9	24	F
58	116	6.9	20	M
51	109	5.7	21	F

CHINESE CLASS 7802

Chinese Name	Name	Raw	Word Comprehension Mastery	Gr.Lev.
		10	57	1.9
		21	74	2.8
		21	74	2.8
		25	80	3.3
		25	80	3.3
		27	83	3.6
		28	84	3.7
		29	85	3.8
		29	85	3.8
		32	89	4.4
		34	92	4.9
		34	92	4.9
		34	92	4.9
		36	94	5.3
		39	98	6.3
		39	98	6.3
		39	98	6.3
		40	100	6.9
		41	101	7.1
		43	104	8.0
		49	113	11.2
		50	115	11.6
		53	120	12.9

WOODCOCK MODIFIED GROUP FORM A

Passage Comprehension Raw	Mastery	Gr.Lev.	Age	Sex
46	104	5.0	24	M
62	120	7.8		M
48	106	5.3	26	M
69	128	10.2		M
63	121	8.1	21	M
60	118	7.4	21	F
53	111	6.0		F
61	119	7.6	22	F
46	104	5.0		F
64	122	8.4	28	F
75	137	12.9	32	M
69	128	10.2	21	F
57	115	6.7	21	M
70	130	11.0	24	F
71	131	11.6		F
67	126	9.5	23	F
67	126	9.5	27	M
71	131	11.6	19	F
63	121	8.1	18	F
66	125	9.2	29	F
72	132	12.2	25	M
66	125	9.2	30	F
74	135	12.9	23	M

CHINESE CLASS 7803

Chinese Name	Name	Raw	Word Comprehension Mastery	Gr.Lev.
		31	88	4.2
		32	89	4.4
		32	89	4.4
		33	90	4.6
		33	90	4.6
		34	92	4.9
		36	94	5.3
		36	94	5.3
		40	100	6.9
		40	100	6.9
		40	100	6.9
		41	101	7.1
		41	101	7.1
		44	105	8.4
		42	103	7.7
		42	103	7.7
		42	103	7.7
		43	104	8.0
		50	115	8.4
		47	108	9.7
		48	111	10.6
		49	113	11.2
		49	113	11.2
		51	116	11.9

WOODCOCK MODIFIED GROUP FORM A

Passage Comprehension				
Raw	Mastery	Gr.Lev.	Age	Sex
49	107	5.4	23	F
39	96	4.0		M
53	111	6.0	23	M
47	105	5.1	21	F
54	112	6.2	23	F
47	105	5.1	20	F
46	104	5.0	23	M
50	108	5.5	21	F
64	122	8.4	23	F
51	109	5.7	21	F
61	119	7.6		M
62	120	7.8	28	M
54	112	6.2	25	M
59	117	7.2		F
60	118	7.4	27	F
41	98	4.2		F
68	127	9.9	24	M
57	115	6.7	21	F
61	119	7.6	25	M
52	110	5.9	21	F
63	121	8.1	24	M
55	113	6.4	24	M
49	107	5.4		M
75	137	12.9	17	M
72	132	12.2	25	F

CHINESE CLASS 7804

Chinese Name	Name	Raw	Word Comprehension Mastery	Gr.Lev.
		25	81	3.4
		33	90	4.6
		33	90	4.6
		37	96	5.8
		38	97	6.0
		39	98	6.3
		40	100	6.9
		40	100	6.9
		41	101	7.1
		41	101	7.1
		41	101	7.1
		42	103	7.7
		42	103	7.7
		42	103	7.7
		43	104	8.0
		43	104	8.0
		44	105	8.4
		44	105	8.4
		44	105	8.4
		46	108	9.7
		51	116	11.9
		58	130	12.9

WOODCOCK MODIFIED GROUP FORM A

Raw	Passage Comprehension Mastery	Gr.Lev.	Age	Sex
54	112	6.2	24	M
71	131	11.6	27	F
63	121	8.1	23	M
58	116	6.9	25	F
62	120	7.8	23	M
62	120	7.8	24	F
57	115	6.7	20	F
65	123	8.7	28	F
60	118	7.4	21	F
67	126	9.5	23	F
59	117	7.2	26	F
66	125	9.2	24	F
72	132	12.2	22	F
56	114	6.5	19	M
75	137	12.9	24	M
64	122	8.4	22	M
65	123	8.7	23	F
77	140	12.9	30	M
67	126	9.5	19	F
63	121	8.1	23	F
71	131	11.6	23	F
75	137	12.9	18	M

CHINESE CLASS 7805

Chinese Name	Name	Raw	Word Comprehension Mastery	Gr.Lev.
		23	77	3.1
		24	78	3.1
		27	83	3.6
		27	83	3.6
		28	84	3.7
		30	87	4.1
		31	88	4.2
		32	89	4.4
		33	90	4.6
		34	92	4.9
		35	93	5.1
		35	93	5.1
		37	96	5.8
		38	97	6.0
		40	100	6.9
		40	100	6.9
		40	100	6.9
		40	100	6.9
		41	101	7.1
		41	101	7.1
		43	104	8.0
		44	105	8.4
		50	115	11.6
		55	123	12.9

WOODCOCK MODIFIED GROUP FORM A

Raw	Passage Comprehension Mastery	Gr.Lev.	Age	Sex
59	117	7.2	24	M
48	106	5.3	21	F
65	123	8.7	23	M
56	114	6.5	21	F
62	120	7.8	23	F
65	123	8.7	20	M
54	112	6.2	23	M
55	113	6.4	20	F
55	113	6.4	22	F
60	118	7.4	28	M
57	115	6.7	20	F
66	125	9.2	22	M
61	119	7.6	27	M
56	114	6.5	27	F
72	132	12.2	28	M
65	123	8.7	25	F
71	131	11.6	25	M
72	132	12.2	32	F
71	131	11.6	17	F
61	119	7.6	21	F
69	128	10.2	21	M
63	121	8.1	22	F
73	134	12.9	22	M
66	125	9.2	23	F

APPENDIX D

Exercises in Progrom 2, G. E. Class

ADULT BASIC READING PROGRAM - A.M.O.T. PARTICIPANTS. JANUARY TO APRIL, 1981

SCORES ON WOODCOCK READING MASTERY TESTS

The Woodcock Reading Mastery Tests were administered at the first class sessions on Monday, January 26th and Thursday, January 29, 1981. Form A was used. Form B of the Woodcock Tests were administered at the last class sessions on Monday, April 27th and Thursday, April 30th, 1981.

The Woodcock Reading Mastery Tests are a battery of five (5) tests that are useful in identifying an individual's status in reading achievement. It covers the range of skill development from the first grade through the end of twelfth grade. It is useful in diagnosing the kinds of reading instruction individuals need---that is, basic reading instruction.

The five tests are:

Letter Identification: contains 45 items which measure a subject's ability to name letters of the English alphabet. This test was not necessary for the A.M.O.T. participants. Each was given the top score of 173.

Word Identification: contains a set of 150 words ranging in difficulty from the first words presented in typical reading programs (the, go, and) to words of above average difficulty for superior students completing the twelfth grade (facetious, beatitude, picayune.). This test was administered orally to the participants by the teacher or an aide. The subject's score on this test indicates his sight reading vocabulary.

Word Attack: contains 50 items which measure the subject's ability to identify nonsense words through the application of phonic and structural analysis skills. Score on this this indicates the subject's mastery of the basic skills needed to read new words that he has not previously met. Word Attack skills are essential for the good reader.

Word Comprehension: The Word Comprehension Test contains 70 items to measure a subject's knowledge of word meanings. An analogy format, each analogy consisting of a double pair of words, was chosen for the purpose of this test. The subject's score is an indication of his vocabulary development, basic to reading comprehension.

Passage Comprehension: contains 85 items of a modified cloze procedure type. The subject's task is to read silently a passage which has a word missing and then write an appropriate word to go in the blank space. The passages range in difficulty from first grade to college level. To supply the missing word in a passage the reader must draw upon a wide array of comprehension, word attack, and word-meaning skills. In this sense, the Passage Comprehension Test can be considered an omnibus test of reading skills.

TOTAL READING: Raw scores on each of the five tests are converted to Mastery Scores. Mastery scores indicate the level of reading achievement for each sub-test. A percentile score is reported for each A.M.O.T. participant for each of the five tests. The total reading score is reported both as a total Mastery Score and as a Percentile Score.

The PERCENTILE SCORES reported for the participants are based upon the norms for high school students at graduation--the end of the twelfth grade. These norms are the highest available. They allow us to identify the level of the students reading achievement when compared with high school graduates.

A PERCENTILE SCORE INDICATES THE NUMBER OF INDIVIDUALS OUT OF ONE HUNDRED WHO MAKE AN EQUIVALENT SCORE OR HIGHER.

88 PASSAGES TO DEVELOP READING COMPREHENSION (continued)

Another way of looking at individual progress in 88 Passages is to multiply the number of passages completed by the percentage of questions answered correctly. This may help give an indication of individual reading efficiency. Therefore, I have arranged efficiency scores for each of the four classes in order from highest to lowest. (Groups are considered separetely since the amount of class working time varied among the groups.)

Name	Passages Completed:	Total Questions Answered:	Number Answered Correctly:	Number Answered Wrongly:	Percentage Answered Correctly	Efficiency Score: Column 1 x Column 5	Also Worked CRP II:
Monday - 6:10 p.m.							
John Lubowicki	32	160	147	13	92	29.34	*
Matt Jonoski	30	157	143	14	91	27.3	
Tim Stanton	31	167	139	28	83	25.73	**
Susan Carter	32	175	134	41	76	24.32	*
Debbie Hepler	27	144	128	16	90	24.3	***
John Krysiak	31	163	121	42	74	22.94	
Rick Barnes	19	103	80	23	78	14.82	
Monday --- 8:15 p.m. group:							
Mike Rastetter	35	134	161	23	90	31.5	*
Sandy Fedele	34	181	155	26	86	29.24	**
Ann McLaughlin	26	138	103	35	75	19.70	*
Tim Coleman	23	120	80	40	67	15.41	
David Tolley	19	100	62	38	62	11.78	
David Karney	9	48	42	6	88	7.92	
Rodney Cottman	5	26	17	9	65	3.25	
Linda Johnson's Summary is missing. She would have rated between Ms. Fedele and Ms. McLaughlin.							**
Thursday - 6:10 p.m.							
Jeanne Haglund	43	235	194	41	82	35.26	**
Kim Shaffer	34	183	161	22	90	30.3	*
Leo Grzegorzewski	31	170	130	40	76	23.56	
David Walters	25	134	117	17	87	21.75	
John Rosenthal	25	128	108	20	84	21.00	
Anton Bassham	24	130	106	24	82	19.68	
David Staub	21	123	105	18	86	18.06	
Jim MacMonagle	22	124	93	31	75	16.50	
Thursday - 8:15 p.m.							
Kevin Meeker	41	309	272	37	90	36.9	
Clifford Foster	47	251	177	74	71	33.37	
Paul Victory	39	203	173	30	85	33.15	*
Myrna Yokoff	46	256	178	78	70	32.2	
Betty Tirpak	29	154	144	10	93	26.97	*****
Karen Anthony	28	149	135	14	91	25.48	****
David Greene	31	184	122	62	66	20.46	
Doug Skarupski	20	114	102	12	89	17.80	
Gary Granger	17	85	73	12	86	14.62	
Larry Gates	16	90	78	12	87	13.92	

No participant completed all 88 passages. Each was assigned a starting point based upon my estimate of his reading ability. Those who completed the assigned passages moved on to College Reading Program II. Betty Tirpak, Karen Anthony, and Debbie Hepler worked much in CRPII and Ms. Tirpak and Mrs. Anthony worked on other material. With this as a consideration, they really rank at the top of their groups in reading efficiency. Those with one star started CRPII but did not do many. Those with two stars completed a few. Those with no stars did not start this advanced program.

88 PASSAGES TO DEVELOP READING COMPREHENSION

The 88 passages ranged from easy sixth grade reading through very difficult college levels. They are designed to help individuals improve comprehension skills. Six basic types of questions require the individual to use six types of thinking. The types of thinking are:

Subject matter - What the passage is about;
Generalization - What the author says about the subject matter - the main thought;
Detail - How the author supports his generalization - the supporting details;
Significance - What is the message of the passage - what should the reader do or think about the author's generalization;
Conclusion - What conclusions should the reader draw from the passage. Many of the conclusions in the 88 passages had to be inferred;
Vocabulary - developing an understanding of new words using contextual clues.

A.M.O.T. participants had opportunities to work on 88 Passages during at least ten (10) hours of the class sessions. After completing the 88 Passages, they were encouraged to work similiar passages in the College Reading Program II.

The development of Reading skills is an individual matter. Due to the wide range of abilities in the A.M.O.T. classes, individuals were encouraged to work independently in these reading activities at their own unique levels and speeds. The following is my opinion of the progress of each individual. These are reported for the individual classes in the order the names appear on the class roster sheet.

Monday Sessions: 6:00 - 8:00 p.m.

Rick Barnes - Mr. Barnes completed 19 of the passages. He answered 80 questions correctly and 23 wrongly. This is a percentage of 78. Grade C+.

Susan Carter - Ms. Carter completed 32 of the passages. She answered 134 questions correctly and 41 wrongly. This is a percentage of 76. Grade B. (Ms. Carter worked more rapidly than many others in the class.)

Debra Helpler - Ms. Hepler completed 27 passages. She answered 128 questions correctly and 16 wrongly. This is a percentage of 90. After completing assigned exercises in 88 Passages, Ms. Hepler did several passages in College Reading Program II. Grade A.

Matt Janoski - Mr. Janoski completed 30 of the passages. He answered 143 questions correctly and 14 incorrectly. This is a percentage of 91. Grade A-.

John Lubowicki - Mr. Lubowicki completed 32 of the passages. He answered 147 correctly and 13 incorrectly. This is a percentage of 92. Grade A-.

John Krysiak - Mr. Krysiak completed 3 of the passages. He answered 121 correctly and 42 incorrectly. This is a percentage of 74. Grade C.

Tim Stanton - Mr. Stanton completed 31 of the passages. He answered 139 correctly and 28 incorrectly. This is a percentage of 83. Mr. Stanton also worked a few passages in College Reading Program II. Grade B.

Monday Sessions: 8:15 - 10:00 p.m.

Tim Coleman - Mr. Coleman worked 23 passages. He answered 30 questions correctly and 40 incorrectly. This is a percentage correct of 67. Grade C-.

Sandra Fedele - Ms. Fedele completed 34 passages. She answered 155 correctly and 26 incorrectly. This is a percentage of 86. Ms. Fedele also completed many of the College Reading Program II passages at a high level of accuracy. Grade A.

Rodney Cottman - My records indicate that Mr. Cottman completed just 5 of the passages. He may have completed a few additional ones but his paper was lost due to a missing name. Mr. Cottman had 17 correct responses and 9 incorrect responses. Mr. Cottman works quite slowly in reading but generally strives for accuracy. His percentage of accuracy on these 88 Passages was 65. Grade D.

David Karney - Mr. Karney completed just 9 of the passages. He had 42 correct answers and 6 incorrect. This is a percentage of 88. Mr. Karney seems to be reasonably good reader but reads very slowly and deliberately. Grade B-.

Ann McLaughlin - Ms. McLaughlin completed 26 of the passages. She answered 103 questions correctly and 35 incorrectly. This is a percentage of 75. Ms. McLaughlin also completed a few of the College Reading Program II passages. Grade B-.

Mike Rastetter - Mr. Rastetter completed 35 passages. He answered 161 questions correctly and 23 incorrectly. His percentage of accuracy is approximately 90. Mr. Rastetter also began the College Reading Program II passages although he completed just a few. Grade A-.

David Tolley - Mr. Tolley completed 19 passages. He answered 62 questions correctly and 38 incorrectly . This is a percentage of 62. Mr. Tolley also missed several sessions due to an injury. Grade D.

Thursday Sessions: 6:00 - 8:00 p.m.

Anton Bassham - Mr. Bassham completed 24 passages. He answered 106 correctly and 24 incorrectly. This is a percentage of 82. Grade B-.

Jim MacMongagel - Mr. MacMongagle completed 22 passages. He answered 93 correctly and 31 incorrectly. This is a percentage of 75.Grade C.

Jeanne Haglund - Ms. Haglund completed 43 passages. She answered 134 questions correctly and 41 incorrectly. This is a percentage of 82. Ms. Haglund also completed several College Reading Program II passages. Grade B.

Leo Grzegorzewski - Mr. Grzegorzewski completed 31 passages. He answered 130 correctly and 40 incorrectly. This is a percentage of 76. Grade C- .

John Rosenthal - Mr. Rosenthal completed 25 passages. He answered 100 correctly and 20 questions incorrectly. This is a percentage of 84. Grade B.

Kim Shaffer - Ms. Shaffer completed 34 passages. She answered 161 correctly and 22 incorrectly. She attained a percentage score of 90. Grade A.

Thursday Sessions: 6:00 - 8:00 (continued)

David Staub - Mr. Staub completed 21 passages. He answered 105 questions correctly and 18 incorrectly. This is a percentage score of 86. Grade B.

David Walters - Mr. Walters completed 25 passages. He answered 117 correctly and 17 incorrectly. This is a percentage score of 87 Grade B.

Thursday Sessions: 8:15 - 10:00 p.m.

Larry Gates - Mr. Gates completed 16 passages. He answered 78 correctly and 12 incorrectly. This is a percentage score of 87. Mr. Gates seems to work quite slowly since the completion of 16 passages is quite low compared to others in this group. Grade B-.

Kevin Meeker -Mr. Meeker completed 41 of the passages. He answered 272 questions correctly and 37 incorrectly. This is a percentage score of 90. Grade A.

Betty Tirpak - Ms. Tirpak completed 29 passages. She answered 143 questions correctly and 10 incorrectly. This is a percentage score of 93. Ms. Tirpak also worked several of the College Reading Program II passages and some other advanced level materials. Grade A.

David Greene - Mr. Green completed 31 passages. He answered 122 questions correctly and 66 incorrectly. This is a percentage score of 66. Grade C.

Gary Granger.- Mr. Granger completed 17 passages. He answered 73 questions correctly and 12 incorrectly. This is a percentage score of 36. He missed a few of the classes and did not work particularly fast. Grade B.

Karen Anthony - Ms. Anthony completed 28 passages. She answered 135 questions correctly and 14 incorrectly. This is a percentage score of 93. Ms. Anthony also worked many exercises in College Reading Program II and completed some other advanced level materials. Grade A.

Myra Yokoff - Ms. Yokoff completed 46 passages. She answered 178 questions correctly and 78 incorrectly. This is a percentage score of 70. She was a hard and dedicated worker, completing more than the average participant. Grade B-.

Clifford Foster - Mr. Foster completed 4[illegible] passages. He answered 177 questions correctly and 74 incorrectly. This is a percentage score of 71. Mr. Foster was a hard and dedicated worker, completing the most of any participant. Grade B-.

Paul Victory - Mr. Victory completed 39 passages. He answered 173 questions correctly and 30 incorrectly. This is a percentage score of 85. Grade A-. Mr. Victory also worked in College Reading Program II materials.

Doug Skarupski - Mr. Skarupski completed 20 passages. He answered 102 correctly and 12 incorrectly. This is a percentage score of 89. Grade B+.

Linda Johnson - I am unable to locate the summary sheet for Ms. Johnson. However, I recall that she did many of the passages with a high degree of accuracy. She also began working in College Reading Program II. Grade A.

HOLE-MAKING METHODS

Machinists have several methods of making holes in metal. The following identifies most of the methods:

Drilling: Drilling is making a hole where none previously existed. It is the mostcommon method of making holes. It is satisfactory for ordinary methods and can be done at low cost; the only more economical way would be by punching. The finish by drilling is rough, and the accuracy of size and location is poor. A standard 1/2 inch drill may produce one as much as 0.020 inches oversize. In mass production, with the use of a jig, holes may be drilled to within plus or minus 0.002 in. of size and location.

Reaming: Reaming is enlarging a hole accurately to size, with a good finis From 0.001 to 0.003 in. is allowed for hand reaming and 0.010 to 0.025 in. for machine reaming in a hole previously drilled. The accuracy to be expected is within +0.001 to -0.000 in. without a jig, and sometimes to within plus or minus 0.0002 in. on a small hole with a jig. The location will depend upon the accuracy produced by the preceding drill. Reaming involves the use of a tool of fixed size, thereby limiting the choice of hole sizes with this method. It is, however, faster than boring.

Boring. Boring is also enlarging a hole to produce a better finish and siz but it involves the use of a single-point tool and the size of the hole is dependent upon the adjustment of the tool in the machine. Boring can correct hole location and out of roundness, since t he tool can remove more material from one side of the hole than the other and does not follow the defects of the hole. It is a slower method than reaming and usually requires many passes of the tool across the work. It may be followed by reaming. The accuracy of size can be held to within plus or minus 0.0005 in. and the finish is good.

Milling: A two-lip end mill is an excellent way of making small holes. Material removal is fast and the accuracy is about plus or minus 0.0005 in. for size and location. The hole is the size of the tool and is limited in depth to about twice the diameter. It is not adapted to changing hole location (as in boring but can be used for slots, grooves, or large holes.

Grinding: Until recently this was the only applicable method of removing moderate to large amounts of stock from materials previously hardened. It has about the same characteristics as boring in regard to correction of hole location and out of roundness. It may be considered as acting the same as a multipoint boring tool as far as action is concerned. The finish is excellent, being exceeded only by honi or lapping in some cases. The accuracy of size and position is about plus or minus 0.0001 in. The jig grinder or chucking grinder is the usual machine tool using this method, and the material is usually, but not necessarily, hardened. Ultrasonic and electrical-discharge machining are new methods which supplant some grinding.

Lapping: This is another method of sizing hardened holes, but it is extremely limited in the amount of stock it can remove. The action compares with that of a reamer and is not the same as grinding, which is more like boring. This method is recommended for hardened holes smaller than 1/4 in. The lap is guided by the original hole and does not change the hole location. A lap increases hole size by radial expansion of itself, while the grinding wheel is fed outward. This expansion may be accomplished by driving the lap along a tapered arbor.

The surface speed of a grinding wheel is many times that of a lap and the 90 wheel touches the work only at a small arc, while the lap is in contact over its entire circumference. Laps are used because of the lack of strength in conventional grinding wheels and lack of a convenient mechanism for driving wheels of such small size fast enough for efficient grinding. Abrasive wheels must travel at 6000 sfpm, while laps operate at 1500 sfpm. Toolmakers in watch factories use mandrels as small as 0.003 in. Holes about six times as deep as the diameter are the limit of this method.

Honing: Honing is a method of finishing relatively large holes, such as automobile cylinders, by means of relatively slow-moving abrasive stones. The surfa is excellent, and the accuracy of size is about 0.0005 in. This method depends on the use of expanding stones, so it cannot correct axis location or out of roundness. It can be used on hardened surfaces.

Counterboring. Enlarging a portion of a hole is called counterboring. It may be accomplished by a double-diameter boring bar or with a tool called a counterbore. A counterbore and a spot facer are the same tool---an end-cutting tool with a pilot that fits a previously made hole. The depth of hole made with this tool is strictly limited. A counterbore is used to provide a step for a shaft, a recess for a socket-head cap screw, or any other pocket about a hole.

Spot facing: Spot facing is the finishing of a surface around the area of a screw or pad. Usually the entire surface on a small pad cast above the surrounding surface is spot-faced. This saves machining the entire casting to support the underside of screwheads and sometimes to support other machined suffaces. A hole may be spot-faced below the rough surface, or if a bosghas been cast above the surface, it may be spot-faced.

Countersinking. A countersink is a short tool similar to a reamer; it enlarges the entrance of a hole on a taper for a short distance. Standard countersinks are 60, 82, or 90° included angle. This operation provides a seat for wood or machine screws to allow their heads to be flush or below the main surface.

Punching: Punching is the least expensive and the fastest method of makin a hole. It is limited by the thickness of the material. The widest application of this method is in sheet metal, such as radio chassis, although thicker metal, -for bridge girders, is often punched while hot. This is not strictly a machining operation, since a slug, not chips, is produced.

Casting: Holes may be cheaply cast in place by any of the casting methods- sand, die, permanent-mold, or plastic casting. Machining time can be saved if the holes are cast, provided the coring operation is not difficult or expensive. Holes produced by sand casting must later be drilled and bored and/or reamed. Holes produced by die or permanent-mold casting may be used as cast because the surface is smooth and has no sand particles. Large holes in castings are usually cast in place to save time as well as material.

Spinning: Spinning is a unique method of forming a hole in that it involv working a flat sheet into a cylindrical form, thereby forming the material around the hole. Musical instruments and nozzles are frequently formed in this manner.

Forging: Forging is similar to hot punching for making holes. It is an inexpensive method applicable only for large quantities. The finish is poor and is usually followed by some hole-finishing method. It is in about the same category as casting for producing holes.

Flame cutting: The use of an oxyachtylene torch for producing holes is limited to plate. Such plates are cut to a variety of shapes and welded together to produce many products such as machine frames, diesel-engine blocks, etc. These holes are usually finished on a boring mill.

Trepanning: Trepanning produces a hole by cutting the circumference directly. A slug and a small pile of chips is produced. There are two forms of trepanning: that used for thin sheets like radio chassis and that used on much heavier metals or materials.

The tool used for sheet-metal trepanning may consist of a tool bit adjustable on an arm which revolves around a pointed center shank. The center locates the tool and keeps it rigid. This operation is similar to the operation of a draftsman's compass.

To speed up the drilling of certain deep and large holes, another trepanning operation may be performed. Holes 1 and 1/2 inches in diameter or larger may be cut by this method. Besides being faster, because fewer chips are produced, it gives a smoother bore because the tool is self-truing. Material is saved because the bore can be enlarged, an important factor in using the expensive alloys. Tool life is improved because of the slight variation in speed (sfpm) across the narrow cutting edge. The tool is essentially a tube of proper length fitted with a shank, if required, and having a tool bit wider than the tube inserted in one edge; this provides the required clearance. The setup for this operation requires care, but when it can be adopted it provides a very efficient holemaking method.

ADULT BASIC READING SKILLS: TECHNICAL COMPREHENSION AND VOCABULARY II

READING TIME: _____

STEPS IN THE MANUFACTURE OF AN ENGINEERING DESIGN:

Today's engineer has practically a limitless variety of materials and processes at his disposal to create anything from a new type of can opener to a spaceship capable of cruising among the planets. The most difficult problem is sorting out those materials that would best serve his needs. For introductory purposes he can consider that there are seven major steps in the manufacture of an engineering design. Not all steps may be required, nor may they fall in this order.

Step 1. First we have the primary formation of the material. This is exemplified by the collection of iron ore, from Mesabi or Venezuela, which is then melted and refined in the furnace and poured into an ingot. Now we have the material to work with, but it is not exactly in the form we desire.

Step 2: Therefore there may be a second operation which follows the first one, and this second operation may be performed in several stages. The second operation may take the ingot and work it into a bar which is suitable for use on the lathe or into a billet from which we can forge a crankshaft or gear blank. Often an ingot is forged directly into a large rough shaft.

Step 3: Now that we have a form of material which is close to a useful size and shape, it still may not be useful. Therefore a third operation, machining, may be performed. Here the excess material is carefully removed, the part begins to take the shape desired and it may reach the point where it completely or approximately meets the dimensions specified.

Step 4: Even though our crankshaftor gear blank looks about like the shape we require, there is one other ingredient we may wish to inject in order to make the object more useful or satisfactory. This is a heat treatment which does not noticeably alterthe object to our eyes but does transform the internal structure so that the part is tougher, stronger, or will wear longer and therefore be more useful. The heat treatment may take place before, after, or in between machining operations.

Step 5: The heat treatment may have left our piece with some scale or even some warpage of dimension, so that we know require a finishing operation to give a smooth finish, a more accurate size, or a closer fit. These are the honing, lapping, grinding, or superfinishing operations.

Step 6: All our designs may not require the last operation. There may be some portions exposed to weather or moisture or the critical gaze of the consumer, so that we may wish to paint, plate, plastic-coat, or otherwise provide a protective or decorative coating which has nothing to do with size, smoothness, or accuracy.

Step 7: After all our little components have been completely manufactured, we would like to assemble them into a working mechanism. Therefore we desire to bolt, screw, weld, rivet, or otherwise join various parts together.

Each of these processes has a reason for existence; each has its individual advantage and disadvantage, and all are not equal in cost or desirability. Both judgment and economics enter into the decision. This is the particular realm of the engineer. To make any part better than required (with a safety margin) is often foolish as well as uneconomical. Good judgment comes from good training, good sense, experience, and a knowledge of both old and new processes.

Many materials are available to the engineer today for designing products. In addition to the ferrous metals, there are nickel, chromium, brass, copper, tin, and others. In addition, nonmetallics, such as nylon, Delrin, plastics, and others are commonly used in the design of machinery and mechanisms. But, for purposes of this reading, we will consider only ferrous metals

PIG IRON:

At one time, it could accurately said that the principal raw material for all ferrous products was pig iron, a product of the blast furnace. With the introduction of pelletized ore and a greater use of scrap, this is no longer entirely true. However, as a machinist, you should know the basic steps in the steelmaking process.

Pig iron is obtained by smelting iron ore (Fe_2O_3 or Fe_3O_4) along with limestone and coke. Pig iron is the crudest form of iron; it is neither malleable nor ductile and suitable only for conversion to cast iron or steel.

Liquid pig iron may be transported directly to the steel furnaces for conversion into steel or it may be cast into pigs for later use. In the steel furnace, whatever its type, phosphorus and sulfur are removed and silicon, manganese, and carbon are removed or controlled. The principal types of steelmaking furnaces are (1) crucible, (2) bessemer converter, (3) open hearth, (4) BOF (basic oxygen furnace), (5) electric arc, (6) induction furnace. From the steel furnace ingots are cast, stored in soaking pits, and then rolled into various shapes.

The principal refined products stemming from pig iron are (1) gray cast iron, (2) ductile cast iron, (3) white or chilled cast iron, (4) malleable cast iron, (5) steel castings, and (6) steel ingots.

Gray cast iron varies in composition, but it is the iron which is most widely produced in the foundry industry because of its low cost, fluidity or casting characteristics, wear resistance, good machinability, high compressive strength, and good damping qualities. In most castings carbon up to 0.8% is in the form of iron carbide (Fe_3C) and the balance from 2 to 4% in the form of graphite. The name comes from the color of its fracture, which exposes the gray graphite. It has a hard outer skin which is detrimental to cutting tools unless care is taken to make the first cut below this scale, otherwise it is readily machinable.

White cast iron contains no graphite, so its fracture shows a white color. All the carbon is in the form of cementite. It can be produced by casting gray iron against metal chills to cool it rapidly and give it a white surface layer or by changing the composition to keep the carbon and silicon low so there is no free carbon. White cast iron is very hard, brittle, and wear resistant. Chilled railroad-car wheels are one product of this material, and another is malleable iron, into which it is converted.

Malleable cast iron is made from white cast iron by suitable heat treatment which changes the combined carbon into nodules of graphite. Usually this is done by annealing after the iron is packed in an inert material such as furnace slag. It has good machinability, good impact resistance, good moldability, and poor wear resistance. It finds a wide market in pipe fittings, agricultural implements, automobile parts, pipe valves, etc. Some types can take considerable bending after casting, enabling them to be cast flat and bent to the desired configuration. This is a very definite manufacturing advantage.

Ductile cast iron has a wide range of compositions and is also known as nodular iron. It has high strength and ductility, excellent machinability (much better than gray cast iron), weldability, good castability, etc. The carbon is in the form of graphite nodules and is produced by the addition of magnesium alloys such as magnesium-nickel or magnesium-copper ferrosilicon. Its improved characteristics have allowed its use in such products as automobile crankshafts.

Cast steel is a little more difficult to cast than gray cast iron and is somewhat more expensive. The obvious advantages are considerably higher strength and impact resistance. There are perhaps a hundred regularly used compositions for cast steel. The casting has a hard skin, like cast iron, and the cutting tool must be set beneath this outer layer in order to preserve tool life. Otherwise, it is readily machinable. It is weldable and similar in strength to the wrought steels. Many of the compositions are designed for particular characteristics such as improved wear resistance, corrosion resistance. Tensile strengths vary from 60000 to 175,000 psi.

STEEL:

Steel may be defined as an alloy of iron, carbon, manganese, silicon, phosphorus, sulfur, and sometimes other metallic elements either unavoidably present or deliberately added such as chromium, nickel, molybdenum, and vanadium. For our purposes we may consider five principal classes of steel: carbon steel, medium-carbon steel, alloy steel, stainless steel, and tool steel. Each has been developed for a particular characteristic and purpose and, because of the practically infinite combinations of alloying elements, there are almost a limitless number of alloys, each with a slightly different behavior. It is our purpose to try to describe and classify these alloys in such a way that the designer may intelligently choose the proper steel for his use.

Carbon steel is an alloy whose principal ingredients are iron, carbon, and manganese. Carbon steels account for over 90% of all steel production. More carbon steels are used in product manufacturing than all other metals combined. The carbon content of this steel is normally found in the 0.20 % range. Low-carbon steels can only be case-hardened and are said to be in the carburizing group. Limited amounts ofsulfur, phosphorus, and silicon are found in this group, but they are kept within strict control.

Medium-carbon steel is also known as "low-alloy" steel. Steels in this group differ from straight carbon steel in that they contain small amounts of such alloying elements as nickel, chromium, and molybdenum in many variations and combinations. These steels are tougher and have greater strength than straight carbon steels of the same carboncontent. They are intermediate in cost (between the carbon and alloy steels) and are generally used in the "as rolled" or normalized condition. They are known as a direct-hardening grade because they can be water or oil quenched to obtain a through hardness rather than a case hardness. The carbon content is likely to be in the 0.30 to0.50 % range because hardenability is attained through the use of alloys. The function of carbon in an alloy steel is to determine the maximum hardness which can be obtained, while the alloying elements are added to increase the depth to which this maximum hardness can be reached. Medium-carbon steels are used for applications requiring high tensile strength combined with toughness. Heavy-duty shafts and axles, screws, spindles, mandrels, clutch parts, cams, and rollers are typical parts made from these steels.

Reading Time_____

STEEL (continued from Reading Number II)

In the previous reading, we identified carbon steen and medium-carbon steel after after identifying several forms of iron: basic iron, gray cast iron, ductile cast iron, white or chilled cast iron, malleable cast iron, and finally cast steel.

Alloy steel is a term used for those steels to which substantial amounts of alloying elements such as nickel, chromium, molybdenum, vanadium, or tungsten have been added. These steels are stronger and tougher than carbon steels. They should be considered to be in the semi-process state as they come from the mill because they require further work in the way of proper heat treatment before they attain their full capabilities. They provide combinations and degrees of hardness, strength, ductility, machinability, and impact resistance which the other steels cannot supply. Many other specific properties can be obtained, such as corrosion resistance, heat resistance, or low-temperature impact resistance. Alloy steel is used for shafts or other machine parts where extra strength is required or where it will result in an overall cost saving.

Alloy steel is more difficult to make than carbon steel because of the necessity of keeping close control over the ingredients and procedures. Most alloy steels require reheating and cooling during rolling or hot processing to prevent imperfections such as flaking and cracking. Surface imperfections are removed from billets by scarfing, chipping, or snagging so that subsequent operations do not roll these imperfections into the interior of the bar.

Stainless steels are the various types in which chromium is the principal alloying constituent. Other alloying elements are added to modify the properties. Nickel up to 2% improves the hardenability and resistance to salt-water corrosion in the straight chromium grades. Manganese up to 2% improves the hot-working characteristics. Tungsten up to 3% and molybdenum up to 4% increase the high-temperature strength. Silicon up to 3% and aluminim up to 3 o4 4 % improves resistance to scaling. Selenium and sulfur improve machinability. Copper up to 4% improves resistance to chloride corrosion. (This gives you an idea of the great amount of work performed by chemists and mechanical engineers in developing steels to meet specific purposes.) Stainless steels are magnetic and in general may be hot or cold worked, are machinable, and may be welded.

Tool steel is a term used to cover a wide variety of steels of different compositions intended for the manufacture of many varieties of tools used in all the manufacturing processes. Tools for cutting, blanking, roiling, forming, forging, and many other processes may be specified from one of the grades available. Practically all tool steels are capable of attaining a high degree of hardness when subject to proper heat treatment. Some are selected for resistance to wear, a quality which would, for example, be required in a punch, and some are selected for their ability to hold a cutting edge for a reasonable time, a characteristic that would be essential in a chisel. Others may be selected for their ability to hold a cutting edge even though hot, such as a lathe tool.

SHAPES AND TERMS:

Thematerials available for selection by the engineer may be metallic or nonmetallic, ferrous or nonferrous. They may be in a very rough form, as a casting, for example, or in semifinished form, such as a plate or an extrusion which is very close to thefinal form. Added to these is the countless array of commercial items, finished and ready to be attached to the design. These are the motors, gear reducers, switches, clutches, handles, gears, and couplings.

TECHNICAL COMPREHENSION AND VOCABULARY III (continued)

Since steel is a primary ingredient of nearly all machinery, it deserves a few lines of explanation and description. What is said of steel manufacture applies to the manufacture of other metals except that in the metals which have the least demand, there are fewer choices of sizes and shapes. All the details of steel manufacture may not be of great interest to you as machinist trainees, so we will confine our remarks to the basic essentials.

As mentioned previously, the pig iron is refined in some basic type of furnace by limiting the amount of impurities such as phosphorus and sulfur and controlling the amount of carbon. If it is an alloy, other constituents are added at this point. When the desired condition of the steel is obtained and the laboratory has checked it, the furnace is tapped and the molten metal run into a large ladle. The ladle is carried by overhead crane to a series of molds where the metal is teemed (poured) through the bottom to fill the molds and produce ingots. When the ingots have cooled sufficiently to allow removal from the molds, they are stripped and placed in a soakingpit where they are kept at correct working temperature prior to rolling. The exception is in continuous casting.

The rolling mill consists of a series of cast iron or steel rolls, water cooled, and arranged so that the ingot is reduced in section by successive passes between pairs of rolls. In a large steel mill the pairs of rolls are arranged in serie so that a continuous reduction is carried out. The ingot is gradually reduced in size to produce other semifinished products called blooms, billets, bars, sheets, slabs, rods, plates, and strips. All these terms do not have precise, universal definitions, but the following are usually accepted:

An ingot is the first stage of semifinished steel. It is generally more or less square, tapered, and weighs several tons. A tool steel ingot might measure 6 by 6 by 40 inches. A structural steel ingot might measure 8 by 24 by 84 inches, while a forging ingot might weigh 600,000 lb. Recently a generator shaft for a nuclear power plant was machined from a forging which weighed 473,000 lb. The ingot used to make the forging weighed 663,000 lb and the finished shaft, ready for assembly, weighed 396,000 lb. This will give you an idea of the number of pounds of chips made when an average forging is reduced to shape and dimension in the machine shop.

A bloom is a semifinished product of square or rectangular section with rounded corners. It is an intermediate step between an ingot and a billet. It too weighs several tons and may be 4 to 6 inches thick. The bloom is rotated frequently as it passes through reducing rolls as many as 19 times before it becomes a billet. The continued hot working reduces the size, improves the grain structure, and continues the development of fiberlike flow lines inherent in steel.

A slab is a rectangular section with a width much greater than its thickness. It is made from either an ingot or a bloom and is intended to be further rolled into sheet or plate.

A billet is a semifinished shape of uniform section, usually rectangular, with rounded corners, not over 6 inches nor less than 3 inches thick.

A plate is a finished or semifinished product with a minimum thickness of 3/16 inches. Its maximum width is the width of the rolling mill and the maximum length is the maximum which can be handled or shipped. It is produced continuously for as much length as the ingot will give and is cut off where convenient.

A sheet is a thin partner to a plate and has a maximum thickness of 3/16 in.

A strip is a narrow sheet and has a maximum width of 12 in. with a maximum thicknessof 1/4 in. Since strip is normally handled in coil form, its length can be considerable and is limited only by manufacturing and handling facilities.

A bar is a long, straight, symmetrical piece of uniform cross section. It may be round, square, or of many other configurations. A 4- by 4-in. billet may become a 1/2-in.diameter bar in 10 passes.

Wire is a thin variety of bar, available in coil form and not normally so identified over 1/4-in diameter.

Foil is a thin strip with a maximum width of 12 in. and a maximum thickness of 0.060 in. It is available in coil form.

A tube is round, square, or rectangular bar with a symmetrical hole through its entire length. Tubes are manufactured by several methods. Normally tubes are thought of as having relatively thin walls while pipes have thick walls. However, some tubing is available with rather thick walls. Tubing is made to more exacting specifications and closertolerances than pipe and the internal diameter is considered very symmetrical to the outside diameter, whereas pipe is not as exact.

Structurals are the I beams, H beams, channels, and angles.

ADULT BASIC READING SKILLS - TECHNICAL COMPREHENSION AND VOCABULARY III

Name _____ Date _____

After you have finished reading the three-page article on steel and shapes and terms, test your comprehension and understanding by answering the following questions.

I. Write T in the blank before statements that are correct according to the article and write F in the blank before statements that are incorrect according to the article.

A. ____ Iron is a ferrous metal.

B. ____ There is only one kind of tool steel.

C. ____ Alloy steels are generally harder than carbon steels.

D. ____ A ladle is used in a steel mill to carry hot liquid metal.

E. ____ When metal is teemed, we mean that it is poured into molds.

F. ____ A soaking pit is used to freeze metal while waiting to be rolled.

G. ____ Tapping an iron furnace means hitting it with a hammer to see if it is loaded.

H. ___ Pipes are usually made more exact than tubing.

II. Place the correct word in the blank:

ingot bloom slab wire

I. _____ the first stage of semifinished steel.

J. _____ a thin variety of bar steel, available in coil form, usually not over 1/4 inch thick

J. _____ the intermediate step between an ingot and a billet

K. _____ a rectangular pieee of steel with a width much greater than its thickness. It is made on a rolling mill from either an ingot or a bloom.

III. How is tool steel hardened?

IV. Are stainless steels magnetic? _____ (according to the article?
yes or no

V. Why must surface imperfections be removed from billets of alloy steel before they are rolled, forged, or extruded?

THE HISTORY OF TOOLS: Reading Time _____

Man has inhabited this planet for perhaps a million years. For many centuries he wandered about as a food gatherer, existing on berries, eggs, and the meat left by predators. Existence was difficult, cruel, and uncertain. Knowledge came slowly and it was only about 250,000 years ago that he learned to make his own fire. As aeons passed, he slowly evolved some tools to make his lot easier. About 17,000 years ago the first complex tool (a tool having more than one part) was fashioned.--probably a spear for hunting. This small development made life somewhat easier and food finding a little more certain. Man's first tools were simple objects: fishhook, spears, spoons, stone axes, clubs, and scrapers for hides.

It was not until about 5000 years ago that one of our fundamental mechanisms the wheel, was invented. The iron age developed about 2400 years ago, and with it arose the first real tools as we know them. The anvil, spikes, the cast iron ax, the plane, the first saw with set teeth, shears, the chisel, and the proportional dividers were among this group of tools. Work was still long and hard, but these simple tools enabled man to have certain comforts and an ease of mind that he had not previously enjoyed. With each tool added to man's workshop, another item of convience or comfort was added as well. So it was for many centuries: man slowly stumbled forward, developing more and more tools for his safety and welfare.

By the fifteenth century man had progressed to the point where he could reserve some time for leisure and some time to indulge in art and the appreciation of beauty. This was the period of the Renaissance when he no longer worked from dawn to dusk merely to feed and clothe himself. He could spare some, although still not much, of his energies for other activities. It was during this period that the fundamental theories of the universe were evolved and beauty was cultivated purely for its own sake. Out of this age were born such great men as Copernicus, da Vinci, Galileo, and Michaelangelo. These were the giants upon whose shoulders man stood to envision far horizons. Knowledge was greatly increased during this period and passed on to the next generation by word of mouth until the advent of Gutenberg's printing press about 1450. After this, more people could share more knowledge faster and easi

In spite of the remarkable accomplishments which had slowly been appearing one after the other, all work had thus far been done by muscle of either man or beast or occasionally, after 25 B.C., by a waterwheel. In all the centuries of man's existence on this planet, it was not until about 1776 that the first real machine appeared to lighten his burden appreciably. This machine was the steam engine, the first really workable one developed by James Watt less than 200 years ago. In these last 200 years we have flown faster than sound, sent men to the moon, investigated outer space, approached absolute zero, built a zero-resistance electric coil, develop atomic power, invented supermetals of very high strength and other properties, explor the ocean floor, and now seem on the verge of producing electricity directly from hot gas, thus eliminating the steam turbine and generator (Magnetohydrodynamics).

James Watt had been working on his idea for nearly two years, but he had been unable to build a successful engine because he could not produce a piston to fit a cylinder closer than three-eighths of an inch. He tried in many ways to fill the gap by stuffing it with anything available: cloth, leather, tallow, all to no avail. If the piston could not be made to fitthe cylinder, it could not produce power. John Wilkinson solved the problem by inventing a horizontal boring mill with a boring bar supported outside of the work and thus independent of the irregularities of the rough cast cylinder. This was the first effective machine tool, and it enabled James Watt to produce the first effective steam engine. As is often the case with machine tools the demand existed before the tool.

After the perfection of the steam engine, other machines followed, depending on this prime mover for their operation. As larger and better machines were produced, more and cheaper goods became available to the common man, making his life just a litter easier and better. At first man was skeptical and feared that the machine woul actually take away his employment, but on the contrary, each machine actually added to the labor force by lowering the cost of manufacturing and thereby increasing the market for goods.

MACHINE TOOLS AND PROCESSES:

Any machine or tool used in manufacturing must first be fashioned by machine tools, therefore the machine tool is the mother of all machines and basic to our whole mechanized society. Backing the machine tool and essential to it, of course, are all the manufacturing processes: casting, forging, stamping, and others. These produce the raw shape from which the machine tool produces the parts for our mechanisms. All ideas and inventions are limited by the machine tool and allied processes. Galileo wanted a telescope desperately, but no one knew how to make one. His solution was to make one, crude but effective, himself. His discoveries in astronomy would have been even more far-reaching if he had had better tools to work with. We, too, are limited to some extent in converting our ideas into real hardware. Since it is the machinist and engineer who are deeply involved in creating this hardware, a knowledge of the machine tools and processes is as essential to him as is mathematics and a knowledge of the strengths of metals. As a machinist, you may merely perform operations as directed. But, a familiarity with other machine tools may enhance your job opportunities and also appreciate the domains of mechanical engineering and other engineering fields.

In simple terms, a machine tool is a power-driven machine designed to cut or shape metal. In addition, it might be said that a machine tool is a machine whose primary purpose is to cut metal and remove excess in the form of chips. Some operations performed on machine tools do not fit this definition strictly, but this should not disturb you. Man has shown great ingenuity in utilizing the tools on had for his particular needs. If this seems hard to believe, it is born out by the fact that lathes are machine tools, but they are used for winding wire coils, spinning, and knurling, and none of these are metal-removal operations. On the other hand, a metal shear is not known as a machine tool, but it is often used for cutting off unwanted ends of bar stock and as such performs a metal-removal operation, though the metal is not removed in the form of chips. Our technology is moving at such a rapid rate that

old connections between processes are rapidly being altered and realigned in new ways. Many of the newer processes are producing a finished workpiece without involving the use of a machine tool. And, many machine tooling operations are being controlled by computerized mechanisms. Processes such as cold forging, shell molding, and die casting produce a very satisfactory product ready to be assembled into the final form.

Many definitions of machine shop terms have evolved over the years by usage and may not be scientifically precise. A novice machinist or mechanical engineer must be able to communicate in the language of the shop. Manufacturing terms vary from shop to shop and from industry to industry. Many terms are utilized for entirely different things in different areas. Many definitions change over the years.

As you work in the training shop, you will become familiar with the terms and technical vocabulary in use there. Later, when you move to specific shops located elsewhere, you will want to be sure to become familiar with the technical language in use there. Communication skills areessential in the shop as in other sectors of our lives.

APPENDIX E

Word Analysis for Adults

WORD ANALYSIS FOR ADULTS P. 1

Why do adults need to know how to analyze words?

In order to decode words so that one can receive an author's message through reading, an adult needs to be able to analyze words that he/she does not know by sight. In order to write (encode) words so that one can send a message, an adult needs to be able to spell words so others can read the message. The English language is not as regular as it might be--that is, some words are spelled in such a way that there is not a one-to-one correpsondence between the letter symbol and the letter sound. However much can be learned about the words that are regular which will aid an adult is decoding (sounding out) words that are strange in encoding (spelling words and writing them).

How do I learn how to spell words that I do not know?

The key words are: SAY-COVER-WRITE-COMPARE

1. Say the words that you want to learn out loud by syllables. (Not by letters)
2. Write the word from memory as you again say the syllables. (Not the letters)
3. Compare you spelling with the correct spelling.
4. Practice by repeating Steps 2 & 3 several times.
5. Make a list of words you are studying. Ask a buddy to test you by reading the word while you spell them.
6. Correct the test and focus on the words missed. Write sentences using these words. Go through Steps 1, 2, and 3.
7. Try to state a rule or principle in phonics or structural analysis that you may be breaking in relation to the words misspelled.
8. Find other words that illustrate this rule.
9. Look at lists of words above your instructional level and see which ones are consistent with this rule that you have discovered.
10. Remember--most rules have many exceptions!

WORD ANALYSIS FOR ADULTS

Rhyming Elements or Word Families

Some syllables or one-syllable words belong to a common family. That is, if you know how to spell one of the owrds in a family, it is easy to spell other words or syllables which rhyme with it because all one has to do is substitute the beginning consonant. Learn these "families":

ack, ake, all, an, ark, at, ate, ay,

ell, en, et, ight, ill, ing, it,

old, ook, ot, own, un

They are the 20 most common phonographs. Know how to read these phonograms and how to spell them. They will be the key to reading and spelling of many words and syllables.

CAN YOU READ THESE:

ack: back, pack, jack, rack, black, crack, sack, tack, slack, stack, shack, smack, whack

ake: make, take, cake, lake, awake, shake, stake

all: ball, all, call, fa-l, hall, small, gall, mall, tall, wall, stall

an: an, can, man, ran, an, than, plan, ban, fan, tan, van, clan, scan, span

ark: bark, dark, park, mark, hark, lark, shark, stark

at: at, cat, sat, that, hat, rat, bat, fat, mat, pat, vat, brat, flat, slat, scat, spat, chat

ate: ate, gate, plate, crate, fate, hate, mate, rate, slate, skate, state

ay: play, stay, day, may, way, stay, say, lay, pay, ray, clay, gay, gray, tray, spray

Make cards on the words above that you do not know. Study the spelling and the sound of these words. You will see these words as whole words and as syllables over and over again.

WORD ANALYSIS FOR ADULTS P. 3

NOTICE THAT THERE IS ONLY ONE VOWEL SOUND IN EACH OF THESE SYLLABLES OR ONE-SYLLABLE WORDS.

CAN YOU READ THESE: CAN YOU SPELL THEM?

ell: tell, bell, fell, sell, smell, well, shell, cell, spell, swell

en: then, hen, when, men, ten, pen

et: get, pet, let, met, wet, set, yet, net, bet, fret

ight: night, light, right, might, bright, sight, fight, flight, plight, slight, fright

ill: will, hill, still, fill, kill, spill, till, bill, dill, mill, gill, sill, drill, frill, grill, skill, chill

ing: thing, spring, sing, ring, swing, ding, king, ping, wing, cling, fling, sling, bring, sting

it: it, sit, hit, bit, fit, lit, pit, quit, wit, slit

old: cold, old, hold, gold, scold, bold, fold, mold

ook: look, book, took, brook, cook, hook, shook

ot: not, got, hot, spot, lot, pot, shot, dot, jot, rot, tot, blot, clot, plot, slot, trot

own: down, brown, town, clown, crown, frown

un: fun, run, sun, gun, pun, spun, shun

Make up riddles and rhymes to learn these phonograms if you do not know them.

EXAMPLE: "Can you think of a color that rhymes with sled?"

"My dog sat

So I gave him a pat."

The following are words to which "ed" or "s" or "ing" may be added to form other words. The "ed" ending can have three different sounds:

"ed" can be pronounced like the man's name, Ed as in painted;

"ed" can be pronounced like a "d" as in the word, played;

"ed" can be pronounced like a "t" as in the word, jumped.

These are words in which the "ed" sounds like the man's name, Ed. Can you spell these words? Say the word out loud by syllables. Cover the word. Write the word from memory by syllable. Compare your spelling with the correct spelling.

painted handed lasted started counted landed parted
rested rounded sanded shouted sounded crowded hunted interested
pointed posted seated visited acted added amounted deserted
directed excepted expected grunted herded insisted loaded
printed repeated scolded

Ask a friend to test you on these words. Focus on the words missed. Write sentences using these words. Say each missed word aloud by syllable. Cover the word. Write the word from memory by syllable. Compare your spelling with the correct spelling. Can you think of a rule that would help you spell words that end in "ed" that sound like the man's name "Ed"?

These are words in which the "ed" is pronounced "d" like in "played." Notice that since there is no vowel sound in this "ed" that the"ed" is not a separate syllable. How many syllables are in each of these words?

played called colored howled opened stayed burned cleaned
climbed turned covered filled followed hammered happened
learned picked pulled smelled stormed warmed banged belonged
bowled clanged enjoyed hanged mailed pawed poured
roared rowed sewed traveled alarmed camped chained chattered
chewed clawed cleared curled discovered entered exclaimed
explained feared growled harmed howled joined killed leaned
offered ordered plowed questioned reasoned remained spilled
spoiled stalled steared towered wandered whispered

Ask a buddy to test you on these words. Focus on the words missed. Write sentences using these words. Say each missed word aloud by syllable. Cover the word. Write the word from memory by syllable. Compare your spelling with the correct spelling. Can you think of a rule that would help you spell words that end in "ed" that sound like "d" as in played?

These are words in which the"ed" is pronounced "t" as in "jumped." Notice that sonce there is no sound in this "ed" that the"ed" is not a separate syllable. How many syllables are in each of these words?

jumped	looked	helped	laughed	backed	walked	talked	tricked
barked	honked	knocked	parked	banked	clocked	cooked	
marked	rocked	tracked	cracked	hooked	kicked	leaped	licked
locked	packed	sparked	streaked				

Ask a buddy to test you on these words. Focus on the words missed. Write sentenced using these words. Say each missed word aloud by syllable. Cover the word. Write the word from memory by syllable. Compare you spelling with the correct spelling. Can you think of a rule that would help you spell words that end in"ed" that sound like "t" as in jumped?

Look for other words which illustrate the sound of "ed" as a "t."

Sometimes an "ed" at the end of a word will sound like "t" as in jumped. Other times an "ed" at the end of a word will sound like "d" as in the word, growled. Still other times as "ed" at the end of a word will sound like the man's name, Ed. When it sounds like the man's name "ed" it forms a separate syllable because it has a vowel sound in it.

WORD ANALYSIS FOR ADULTS

VOWEL SOUNDS AND RULES: There are four main vowel rules which will help one figure out unfamiliar words. These are:

1. If a word (or accented syllable) has only one vowel and if the word ends in a consonant, the short sound of the vowel is usually heard. (Example: bed, rabbit, pass)

2. If a word (or accented syllable) ends in "e", the vowel coming before it is generally long and the "e" is silent. This is sometimes called the "Magic e" rule. (Examples: escape, hope)

3. If a word (or accented syllable) has two vowels together, the first vowel is usually long and the second is silent. (Examples: beat, braid, loaf)

   Sometimes where two vowels are together, the first vowel is short and the second is silent. (Examples: bread, head)

   Sometimes where two vowels are together, the second vowel is long and the first vowel is silent. (Examples: break, chief)

   Sometimes neither vowel has either long or short sounds. (Examples: said, vein, weigh, heart)

4. If a word (or accented syllable) ends in a vowel, the vowel is generally long. (Examples: go, he, hello, solo)

Vowels in unaccented syllables and in some one-syllable words which are not emphasized have the weak form—the schwa sound. For example the "a" in "and" or in "can" or in "am" is weak unless these words are given special emphasis as in, "I <u>am</u> going!"

We will talk about the schwa sound later. Right now, can you tell which rule the vowel sound follows in these words?

bang crag graft mash stag tack tact tag drab flask gag

bled dent etch gent hemp zest cleft lens pest shred theft

brig drift disc filth frill grid hick hint kilt prim swish

bog rot prop throb chock clog cob flog plod prod slop cog

slump snug gut lush nudge plush wrung fudge glum gust plug

Which rule can be used to sound the vowel sound in these words?

drape scribe node pate coke cute dote grange trite drone

What happens to the word in the first column when "e" is added to make the word in the second column?

cloth	clothe
fin	fine
mad	made
us	use
shin	shine
ban	bane
dim	dime
sag	sage
slat	slate
thin	thine
strip	stripe
met	mete
nod	node
slim	slime
trip	tripe
lob	lobe
van	vane
grip	gripe

Ask someone to test you on the spelling of these words. All of the words on page 7 and page 8 are one-syllable words. Each word has only one vowel sound. Focus on any words that you miss. Write sentences using these words and learn to spell them by SAY-COVER-WRITE-COMPARE. All words can be broken down into syllables so that they can be spelled easily by using these same rules. Adults can improve their spelling by writing—writing creative stories or poetry, writing letters, writing instructions on making things, etc. The more one writed, the better one becomes at both writing and spelling.

WORD ANALYSIS FOR ADULTS P. 9

These words have vowels sounds which follow which rule?

maize sheen pleat poach preen roach sprain wean waive veal

tease fried taint trait pail loath moat cleat screech reap

Can you think of other owrds that follow the same rule? What are they?

Can you find words that have two vowels next to each other that do not follow the generalization that the first vowel is long and the second is silent? Which exception does it follow?

Which rule do these words follow?

sky, pro, ply, bee, thy, three, she, no, we, ply, my, go, pry, he

OTHER VOWEL SOUNDS: "er", "ir", "ur", all have the same sound.
"or" sometimes has that same sound too.

Examples: girl, her, worm, bird, burn, hurt, perch, germ, term

"ar" as in "car" and "or" as in "corn" have different vowel sounds. All of these vowel sounds are called "r-controlled" vowel sounds because the vowel sound and the "r" are blended together

Can you spell these? arc, garb, tart, term, swirl, blur,
churn, Turk, sworn, port, pork, worth,
world, short, thirst, skirt, spark,
sharp, warm, warmth, charm, stern, fur

OTHER VOWEL SOUNDS:

"oi" and "oy" have the same vowel sound. (Example: toy, noise)

"ou" and "ow" have the same vowel sound. (Example: cow, out)

Oi, oy, ou, and ow are called dipthongs. Can you spell these words that each contain one of the above dipthongs?

boy down house now out toy how our cow found noise town count flour ground loud mouth proud round shout sound voice

How can you tell when to use oi and when to use oy when spelling that sound? How can you tell when to use ow and ou when spelling that sound?

There is no rule that will help remind you. You msut rely on your visual memory. After we see a word many times, we acquire a visual memory for it. Then the incorrect spelling will look wrong because it does not fit our visual memory. Reading and writing will give us practice in seeing a word correctly and will help us form good visual memories for the words. Correcting one's spelling will correct one's visual memory. Closing the eyes and visualizing the word correctly in one's mind's eye will improve the visual memory. One's attitude about correct spelling can also help one strengthen one's visual memory---we remember that which we feel is important and want to remember.

WORD ANALYSIS FOR ADULTS P. 11

VOWELS: Long oo and Short oo (Examples: moon and book)

Do these words have a long oo or a short oo sound in them?

soon too look good balloon hood hoof loose nook scoop
woof brook smooth zoo pool moon cool doom goose roof
crook brook hood shook coop coot loot moot noose snoop

Can you spell: gloom booth broom croon moose swoop
boob booze coop nook crook shook wool

In polysyllabic words (words of more than one syllable), the vowels in unaccented syllables usually have the schwa (ə) sound.
Examples: away circus bottom pencil open

The schwa is a symbol that represents the lack of stress in a vowel. It is the vowel's weak sound and it sounds something like the sound of uh but it is shorter and said more quickly. Any vowel may have this sound. This makes spelling the schwa sound more difficult.

Look in a dictionary. Find some words that have vowels in them that are sounded like uh and have the schwa symbol over them (ə).

Look at the pronounciation key in the dictionary. Notice the schwa. How can one remember the correct vowel in the spelling of a word that has the schwa sound? Do you have to rely on a visual memory?

WORD ANALYSIS FOR ADULTS

SPELLING CHANGES WITH ENDING ADDITIONS

Three basic spelling rules are:

1. Final consonant doubles when adding ed: When?
2. Y changes to I when adding certain endings: which ones?
3. Magic e words drop final e when adding ing: Why?

LOOK AT THESE WORDS: WHICH OF THE ABOVE SPELLING RULES ARE USED?

get	getting	
stop	stopping	stopped
run	running	
cooky	cookies	
dry	dries	
story	stories	
name	naming	
take	taking	
ride	riding	

What is the root word in each of the above words? What endings have been added? Do the endings change the sound of the root word? Do you hear the added consonant when you double it before adding the ending? How do some endings change the spelling of the root word?

FIND OTHER WORDS IN NEWSPAPERS, MAGAZINES, BOOKS AND WORD LISTS THAT ILLUSTRATE THE SAME RULES AS THE ABOVE WORDS. WHAT ARE THE RULES - CAN YOU STATE THEM IN YOUR OWN WORDS?

Add "ed" and "ing" to these words. Ask somone to check you on your spelling of them:

can	get	pet	put	run	stop	cut	sit	sun	top
leg	pan	sled	spot	step	tap	trip	trot	cup	

WORD ANALYSIS FOR ADULTS

SPELLING CHANGES WITH ENDING ADDITIONS

plan pop ship shop skin trap bet beg net
nod slip snap thin chin chop clap crop dim
dip dot drug drum grin grip plot slip snap
split tap blot brim chap chat clip drip flap
flit gap hog hug jam rip shun spit bog clam
peg plug prop rot sled slit stab strut tag
throb blab brag chug clot dub dun fib flip
flog flop gag gut jab prod slop snip

Add endings to these words. Ask somone to check you on your spelling of them: (Endings: er, est, ed, ing, s, es)

happy hurry story cooky cry puppy ready try
angry early family heavy company dirty dry
easy lazy lucky plenty sky berry reply rosy
thirsty tiny body carry cherry city colony
community copy costly crazy deny dirty easy

Add "es" or "ing" to these words. Don't forget to drop the final e before adding the ending:

make ride like take live name time cage clothe
fire place side use change drive face hide hope
ice joke rope smile wave chase line mine pile
pipe race shine smoke stone grope trade write
age bite dive flame page pole chape strike tame
taste wire bathe bite blaze brake cave chase dine

ADULT USE OF THE DICTIONARY

Using the Pronunciation Key

After each word that is listed in a dictionary, there is a phonetic respelling of that word. This spelling is usually in parenthesis. If you know how to use the pronunciation key, you can figure out how to pronounce words that are strange to you. Sometimes the phonetic respelling and the spelling of the word are exactly the same or are very similar. EXAMPLE: jam (jăm)

Sometimes the phonetic spelling and the word look very different. EXAMPLE: jai alai (hī´ lī´).

Sometimes more than one phonetic spelling is given because different people in different locations may pronounce the word a little differently. EXAMPLE: jai alai (hī´ lī´. hī´ e-lī´, hi ə-lī´).
jai alai is a court game in which players use a long hand-shaped basket strapped to thw wrist to propel a ball against a wall. This game is probably played in different countries; in France the name of the game would be pronounced one way and in Florida it may be pronounced another way. The first phonetic respellin is usually the "preferred" pronunciation.

Find a dictionary. Look at any page. The prnunciation key is usually found at the bottom of each page or at the bottom of every other page.

Using the Pronunciation Key

The consonants are the easiest to pronounce because they usually have only one sound each. The pronunciation key does not have to have many different symbols for them.

Say these words slowly and carefully and just think about the sound of each beginning consonant:

Top Ring Dog Nut Man Saw Letter Pencil Fish Cat Book Valentine

The letter "s" may have an /s/ sound as in saw OR
the letter "s" may have a /z/ sound as in was.

The letter "c" may have a /k/ sound as in cat OR
the letter "c" may have an /s/ sound as in city.

In the pronunciation key, then, there will be no "c" because the "c" really has no sound; it sounds like either /k/ or /s/.

In the pronunciation key, then, there are two /s/ sounds:
the /s/ as in saw and the /z/ sound as in was.
DO YOU HEAR /z/ or /s/ SOUND IN THESE WORDS? (EYES SAM PLEASANT SANDPAPER BEST FAMOUS HISTORIC EASE REASON)

ADULT USE OF THE DICTIONARY

Using the Pronunciation Key

Does the letter "c" make the /k/ sound or the /s/ sound in each of these words? (CORRIDOR FACTUAL UNCANNY FRACTION PLACEMENT GRACEFUL SAUCE SACRED)

The pronunciation key in one dictionary is not the same as the pronunciation key in another dictionary but they are very similar.

EXAMPLE: The /k/ sound is shown as/k/ in most all dictionaries.

Sample words: kick cat pique

Each vowel (a, e, i, o, u and sometimes y and w) has at least two different sounds. The two most common vowel sounds are called short and long.

The sound of the short o is the sound of the "o" in the word, ox.
The sound of the long o is the sound of the "o" in the word, no.
The short "o" is marked like this: ŏ in most dictionary keys.
The long "o" is marked like this: ō in most dictionary keys.

EXAMPLE: drŏp jōke

Do you hear ŏ or ō in these words: (NOT HOME HOT STOP HOPE POP ALONE SO CLOCK HELLO)

The pronunciation key in your dictionary will give you an example of a word that has a short o like this: / ŏ pot /

ADULT USE OF THE DICTIONARY

Using the Pronunciation Key

These are the key words for the short vowels in the pronunciation key for the American Heritage Dictionary:

/ ă pat /
/ ĕ pet /
/ ĭ pit /
/ ŏ pot /
/ ŭ cut /

These are the key words for the long vowels in the pronunciation key for the American Heritage Dictionary:

/ ā āte /
/ ē bē /
/ ī pīe /
/ ō nō /
/ ū cōō /

Sometimes vowels are short and sometimes they are long. The problem in sounding out a new word is, "When is the vowel short and when is it long?" Sometimes the only way to know is to look up the pronunciation of the word in the dictionary. Sometimes you can try a common rule.

OPEN SYLLABLE RULE: If the syllable ends in a vowel, that vowel is often long.

CLOSED SYLLABLE RULE: If the syllable ends in a consonant, the vowel is often short.

EXAMPLE: no no - tion not ..ov-el

ADULT USE OF THE DICTIONARY

Using the Pronunciation Key

FINAL E RULE: An "e" at the end of a word often makes the vowel long. An "e" at the end of a word containing another vowel is silent and it usually makes the other vowel long.

EXAMPLE: nŏt nōtȩ

SO we have three long vowel rules: OPEN SYLLABLE - hē
CLOSED SYLLABLE - lĕft
FINAL E - rōsȩ

The "y" can be a vowel or a consonant.

When y is a consonant, it sounds like it does in yarn /y/

When it is a vowel, the y sounds like a long e or a long i.

EXAMPLE: fly /ī/

baby /ē/

The key words for these sounds in the pronunciation key for the American Heritage Dictionary are:

/ī pīe / /ŏ pŏt /

/ē bē / /y yes /

ANALYZING WORD STRUCTURES FOR ADULTS

SYLLABICATION: Dividing words into syllables (word parts) so that they are easier to pronounce and spell.

Before working with syllables, the student should know the following word elements:

1. all consonants
2. long and short vowels
3. consonant blends and digraphs
4. basic endings
5. common phonograms

Look for words of more than one syllable to practice your skill in analyzing the words. These are multisyllabic words. You will need to be able to recognize word parts: prefixes, suffixes, roots, phonograms, blends, digraphs.

The only time these word parts make up a syllable is when it has a vowel sound in it because all syllables must have a vowel sound and each has only one vowel sound. One needs to also understand that the borders of syllables cannot always be precisely assigned to an auditory or visual separation betseen particular letters. However there are some general rules and helps that, if known, will aid a person in analyzing a word structurally and then by checking the word in its contextual setting, one can determine what the strange word is. This requires intensive practice to become a usable habit however. As one becomes more aware of syllables, one can develop efficient strategies and techniques for one's self. The following approaches may prove helpful:

1. First look for the largest structural part that you can recognize.

Why? It saves time and prevents us from ending up with less meaningful parts.

How? 1. Make an instantaneous check to see if the word is a recognizable compound. (made up of two smaller words)

2. Visually isolate recognized prefixes and suffixes

3. Look for a known root.

4. DO NOT look for a small word in a big word. (This will really throw you off.)

2. Secondly, focus your attention on phonological elements: vowels, consonants, phonograms, and digraphs.

   Remember: 1. You need to be willing to vary the sound of some elements.

   2. The consonants usually are more dependable than the vowels.

   3. Sometimes two or three consonants or two or three vowels go together and form a sound that is not like the single consonant or vowel sounds.

3. Third, check to see if the word makes sense in its setting: with the words and the message of the sentence.

4. Say the polysyllabic word without accenting any syllable and then shift the accent up and down the syllables until you recreate a word that you already understand when you hear or talk to someone who knows the word. You can also look the word up now in the dictionary and with the use of the pronunciation key and the accent marks, determine what the strange word is.

STEP I. ISOLATE RECOGNIZED PREFIXES AND SUFFIXES

Five common prefixes: dis, en, in, re, un

Nine common suffixes: er (agent), er (comparison), est, ful, ish, less, ly, ness, y

If you know both the meaning of the prefix or suffix (affix) and the meaning of the root word, you will understand the word easily.

EXAMPLE: build + er = builder A builder is one who builds.
dis + agree = disagree Disagree means does not agree.

Sometimes these affixes are only syllables, not meaning elements:

crack er = cracker dis tant = distant

If you can recognize a prefix or a suffix, mentally remove it and see if the root word that is left is a word that you know. Ask yourself:

1. What is the root word?
2. What endings have been added?
3. What prefixes have been added?
4. Do these suffixes and prefixes change the sound of the root? How?
5. Does the word make sense in this sentence?

ANALYZING WORD STRUCTURES FOR ADULTS

COMMON PREFIXES AND COMMON WORDS

TO WHICH THEY MAY BE ADDED:

DIS — like, please, own, place, qualify, arm, quiet, able, agree comfort, order, taste, ability, advantage, affection, appear agreeable, appear, approve, believe, charge, claim, close, color, connect, continue, count, courage, credit, favor, figure, honest, honor, interested, locate, mount, obey, prove, regard, trust, agreeable, courteous, inherit, lodge loyal, obedience, qualify

EN — large, dear, sure, able, circle, close, danger, rich act camp, joy, case, courage, fold, force, list, rage, slave, trust

IN — door, let, road, side, land, close, sight, born, direct, ability, active, capable, complete, convenient, correct, definity, distinct, effective, flame, formal, human, accurage, adequate competent

RE — new, take, call, open, name, build, place, burn, turn, use, count, move, pay, visit, act, fresh, join, load, appear, arrange, assure, awake, capture, enter, fill, form, organize, print, adjust

UN (meaning <u>not</u> or <u>opposite of</u>) said, did, do, known, like, train, happy, heard, just, named, afraid, clean, dress, hand, roll, seen, tie, told, used, armed, change, cover, done, ending, even, finished, kind, real, sound, tried, well, able, easy, fair, important, interesting, lucky, safe, seat, true, welcome, wind, wise, bend born, certain, chain, comfortable. discovered, expected, hood, load, lock, loose, pack, prepared, saddle, settle, ashamed, attended, attractive, aware, broken, button, clean, common, decided, disturbed, dying, earth, equal, employment, expected, fit, fold, fortunate, friendly, grateful, known, holy, hurt, natural, official, paid, popular, rest, steady, tame, tidy, usual, willing, worthy

COMMON SUFFIXES AND COMMON WORDS TO WHICH THEY MAY BE ADDED:

Adjective Suffixes of Comparison:

ER, EST — soon, white, black, brown, cold, fast, green, guess, happy, long, new, pretty, busy, fine, large, light, near, big, dark, deep, dig, fat, full, great, hard, kind, late, loud, poor, proud, sad, small, soft, warm, young, begin, dry, easy, few, low, mean, rich, ripe, safe, slow, steep, thick, wild, wise, clear, cold, fresh, smart, tall, thin, weak

Of agent "one who" added to verb form:

ER — jump, play, box, farm, find, run, call, garden, give, open, paint, sleep, time, word, blow, build, burn, buy, buzz, clean, climb, cry, cut, fence, field, found, grow, keep, milk, plant, read, room, send, sit, talk, truck, use, believe, catch, count, drink, drive, feed, fill, hold, joke, know, learn, listen, move, pass, pay, pick, push, roof, rope, sell, sing, wash, win, bank, chase, cross, lift, log, love, march, mark, mine, pipe, point, race, smoke, speak, spend, stick, trade, trap, travel, write, beat, boil, bounce, camp, dance, desert, fight, grow, kick, kill, lead, lean, pack, print, ranch, search, steel, settle, shape, speed, spin, swim, tam, weave

FUL — play, help, thank, care, hand, right, thought, hope, mind, fear, harm, joy

ISH — boy, girl, baby, clown, gray, sheep, child, pink

LESS — mother, father, home, color, friend, head, penny, coal, noise, seed, count, need, rest, child, life, tooth, age, breath, fear, harm

LY — father, mother, good, friend, just, live, man, name, night, open, over, time, woman, beautiful, glad, large, light, near, neighbor, ready, right, brave, brother, even, hard, heavy, kind, late, loud, most, part, poor, proud, queer, quick, quiet, real, sad, sister, strange, strong, sure, wife, year, body, clever, close, easy, gay, love, low, lucky, nice, present, rich, safe, secret, sick, sudden, sweet, thick, boast, certain, clear, delicious, direct, eager, foolish, fresh, husband, loose, mad, narrow, order, plain, polite, possible, shape, silent, smart, special, stupid, swift

NESS red, happy, new, glad, ready, dark, full, great, hard, heavy, kind, small, soft, dry, empty, lazy, lovely, smooth, sweet, eager, foolish, fresh, joyful, man

Y sleepy, hand, milk, room, seed, trick, wood, need, cloud salt, thirst, worth

STEP 2. ANALYZE AND DIVIDE THE WORD THAT IS LEFT AFTER YOU HAVE TAKEN OFF THE PREFIX OR SUFFIX

1. Try to hear the syllables if it is a word you can pronounce. (Your mouth changes with each syllable)

2. Since each syllable must have a vowel sound, try to count the vowel sounds. Remember that not all vowels have sounds - some are silent. A double vowel is often a long vowel sound plus a silent vowel = one vowel sound. An "e" at the end of a syllable is sometimes silent, making the first vowel long = one vowel sound. Vowels in unaccented syllables usually have the schwa sound as in away, bottom, and circus. The schwa sound is weak and says something like "uh" but it is said more quickly and is shorter.

3. THINK OF THESE THREE RULES IN RELATION TO DIVIDING WORDS INTO SYLLABLES:

   Rule 1: If there are two consonants between two vowels, divide the word between the two consonants.

   Rule 2: If there is one consonant between two vowels, divide the word before the consonant.

   Rule: VC/CV

   Rule: V/CV

   Rule: C + le = Cle (except when consonant is ck or x)

   Rule 3: If a word ends in le, the consonant that just precedes the le (goes before it) begins the last syllable.

   EXAMPLES: Which rule is being followed?

kitten	happy	monkey	circus
pony	notice	pilot	over
uncle	table	tremble	maple

An OPEN syllable ends in a vowel and the vowel in LONG.

A CLOSED syllable ends in a consonant and the vowel is SHORT.

A consonant sound may be a digraph such as ch, sh, or a blend such as st, pr and still be counted as only one element and will not be divided.

WHICH SYLLABICATION RULE DO YOU USE FOR THESE:

acquit, alder, allot, almond, cancel, canyon, commune, dagger, glimmer, balsam, bandit, barker, cactus, connective, contingent, halter, lusty

WHICH SYLLABICATION RULE DO YOU USE FOR THESE:

babies, agent, China, caper, climax, bridal, bromide, brutish, conine, capon, lured, nasal, tirade, wager, potion, placate, donor, edict

WHICH SYLLABICATION RULE DO YOU USE FOR THESE:

little, table, uncle, castle, candle, crumble, scruple, sidle, giggle fondle, cripple, bustle, baffle, crinkle, fiddle, turtle, trouble, meddle

STEP 3: YOU HAVE NO DECODED THE WORD. CHECK THE SENSE OF YOUR ANSWER AGAINST THE CONTEXT. DOES IT MAKE SENSE?????

This Certificate of Achievement in Adult Reading Skills

is awarded _____

by Edinboro State College, Edinboro, Pa. *upon completion of a program held at* the MILLER READING CENTER *during the* 1980-81 *college term*

_____ _____ _____

Date *Teacher* *Teacher*

_____

DIRECTOR, Adult Reading

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April 20, 1981

Dr. Robert R. McClune
Director
Project ALMS
Room 213
Butterfield Hall
Edinboro State College
Edinboro, PA 16444

Re: Adult Evaluation - 310
Project No.: 98-1027
Project Title: Adult Literacy Mission Support

Dear Dr. McClune:

As a result of an adult-evaluation visit, April 15, 1981 by Ken Wallick, commendations and recommendations are being made for your consideration. Recently, a new evaluation form to be used for our 310 Special Projects has been designed. Your project is one of the first used to field-test the instrument.

The following are the commendations:

1. You are commended for the high degree of motivation and interest shown in conducting a reading improvement program successfully in a college setting, a large industrial complex, a church and in private homes. Your success in reaching individuals in diverse settings and in a sparsely populated area is noteworthy.

The recommendations are as follows:

1. Suggest that the problem of transportation of students to class sites be studied to develop possible alternative

If you have any comments about the above commendations and recommendations, please contact Ken Wallick at the above phone number. Please respond to receipt of this letter and respond to me by May 25, 1981.

Sincerely,

John Christopher, Chief
Adult Education, Continuing Education
and Training Programs

JC/KW/a359/chsm12